AUG 20 1940

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Deep drilling calls for a faster tempo in cementing oil wells—and Multiple Stage Cementing is Howco's answer to the call • • • By dividing the total amount of cement into separate stages, going out at different levels, Multiple Stage Cementing drastically shortens the period during which the cement is exposed to the high temperatures of deep formations • • • In addition, it reduces pump pressure 50%, assures protection where needed and offers many other advantages described on Page 932 of Your Composite Catalog.
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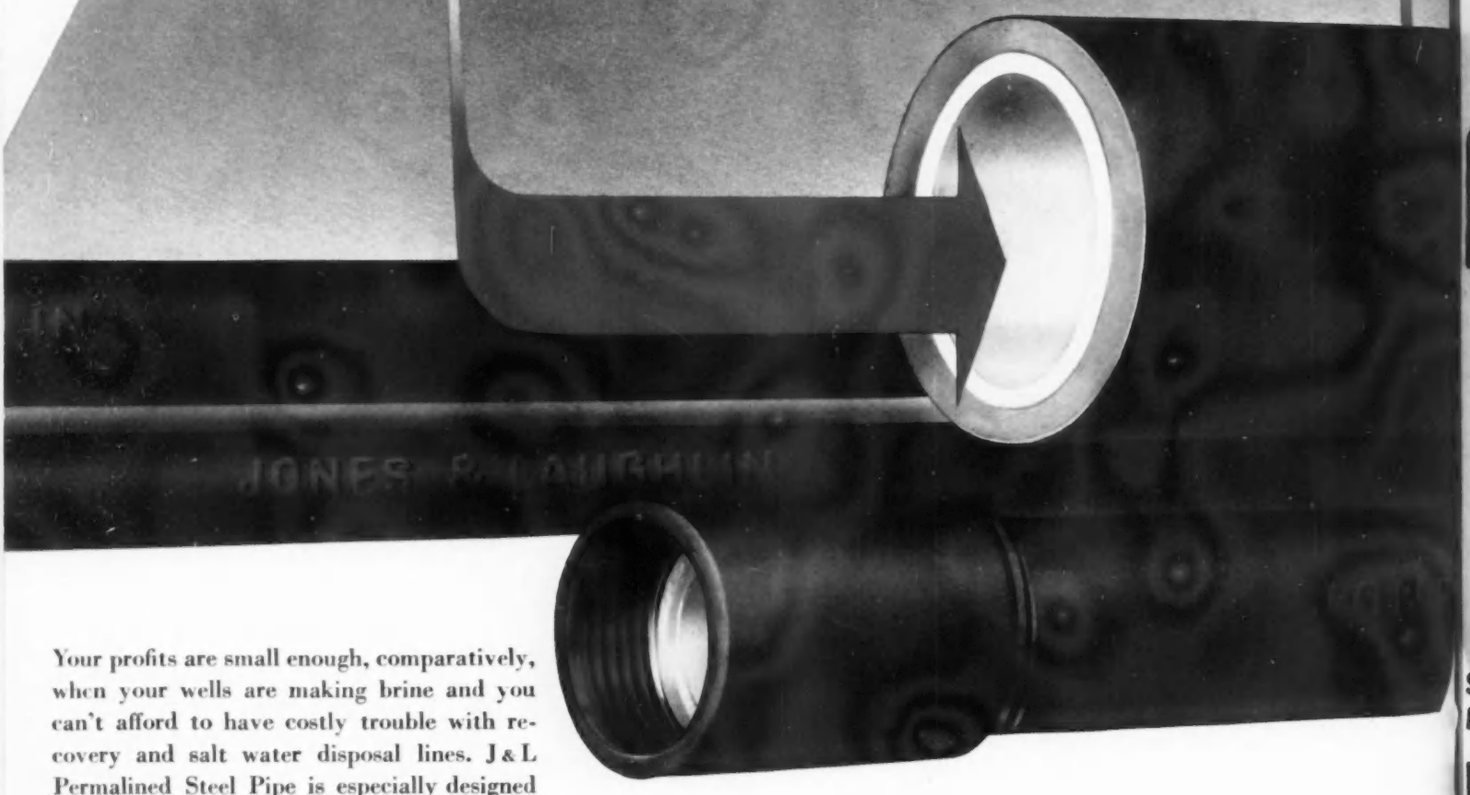
KEEP SALT WATER FROM EATING UP YOUR PROFIT

USE . . J&L PERMALINED STEEL PIPE

INEXPENSIVE • CORROSION RESISTIN



Your profits are small enough, comparatively, when your wells are making brine and you can't afford to have costly trouble with recovery and salt water disposal lines. J&L Permalined Steel Pipe is especially designed to give long, economical service in handling salt water laden crude to lease tanks and separation plants — for carrying brine, under pressure, to disposal points, and for running in the hole where salt water is being used for secondary recovery. With Permalined Pipe no iron oxide can form to clog and seal oil sands. The cement lining of Permalined is thoroughly resistant to corrosion by salt solutions and yet has the strength to withstand high-pressure operations.

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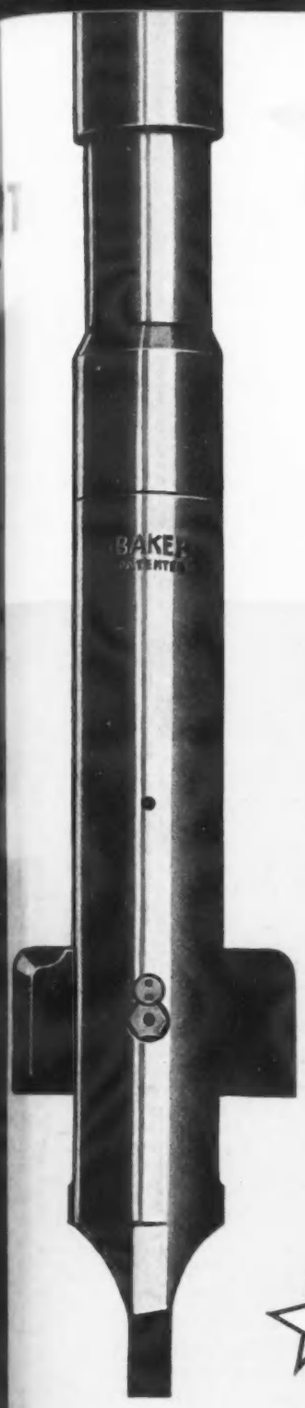
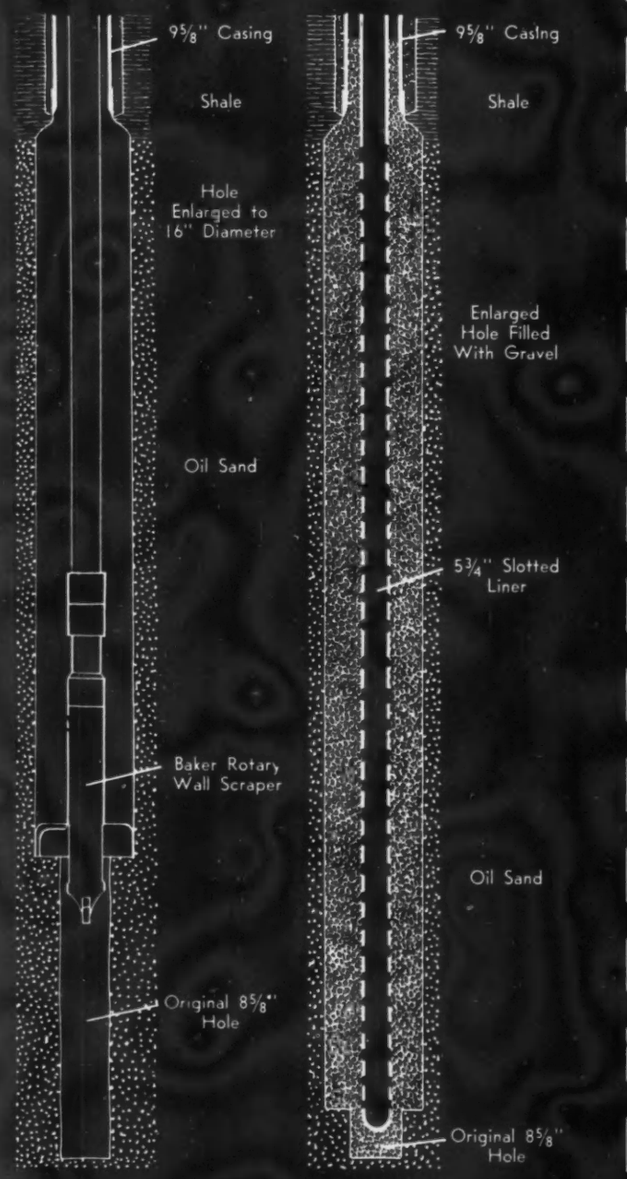
J&L — PARTNER IN PROGRESS TO AMERICAN INDUSTRY

ENLARGING THE HOLE FOR GRAVEL PACKING

One of 12 Practical Field Applications for the BAKER ROTARY WALL SCRAPER





The Baker Rotary Wall Scraper is used to enlarge the hole and thus provide for a substantial packing of gravel around the liner.

Here is shown the completed job with the slotted liner landed and surrounded with gravel in the area enlarged with the Wall Scraper.

Send for Baker Broadcast No. 19

BAKER ROTARY WALL SCRAPER

BAKER OIL TOOLS, INC.
P. O. Box 127, Vernon Station
LOS ANGELES, CALIFORNIA
HOUSTON, TEXAS
NEW YORK, N. Y.

The BAKER ROTARY WALL SCRAPER...

Provides a safe, efficient means of enlarging the walls of an open hole to a diameter considerably greater than the casing or hole through which the tool is run.

REMARKABLE REAMING CAPACITY

One of the outstanding features of the Baker Rotary Wall Scraper is its remarkable reaming capacity in relation to the O. D. of the tool. It has a maximum expansion range on the blades of from 4" to 36".

SAFETY

The safety of this tool has been ably demonstrated in the thousands of successful runs made in oil fields throughout the world under most adverse operating conditions.

TWO TOOLS IN ONE

WALL SCRAPER 2 TOOLS IN WALL SAMPLER

The Baker Rotary Wall Scraper is really "two tools in one" since by merely substituting Sampler Blades for the regular Scraper Blades the tool is converted into a Baker Rotary Wall Sampler . . . an exclusive Baker feature. With this device it is possible to take actual cores from the side walls of any uncased hole at any depth.

Important Applications

Enlarging Holes for Casing

Cleaning Up Oil Sands

Setting Liners

Setting Cement Plugs

Bottlenecking for Cement Jobs

Removing Sections of Drillable Pipe

Water Shut-Off Tests

Sidetracking

Straightening Holes

Fishing Jobs

Enlarging Holes for Gravel Packing

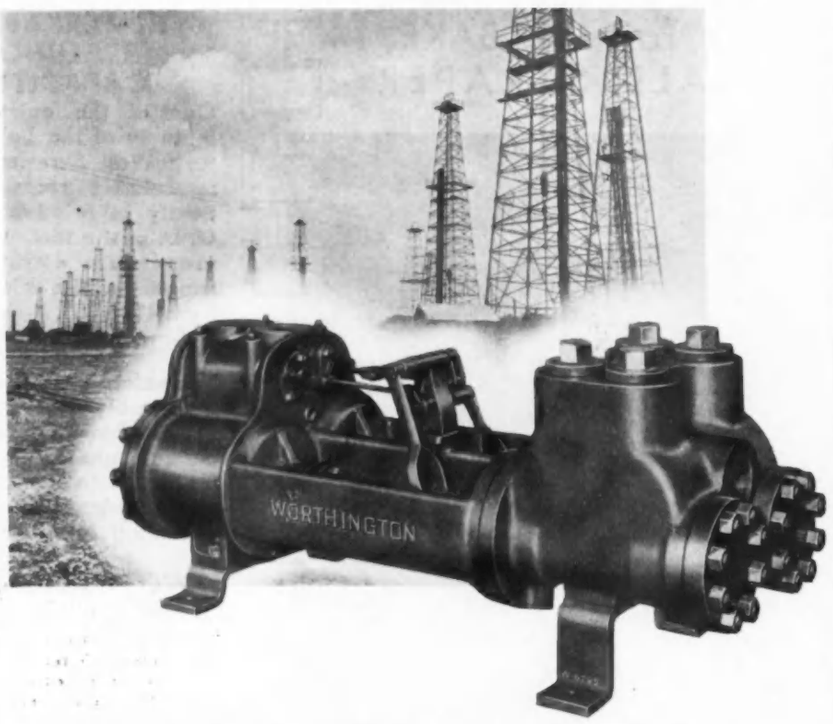
Side Wall Sampling (by converting Scraper into Baker Wall Sampler)

PRESSURE

dictated a high-strength

CIRCLE L

LEBANON STEEL CASTING



THIS Worthington Type PH Duplex Piston Pump is going into a tough assignment in the drilling fields. Oil well cementing service calls for working pressures of 4000 psi. So Worthington gave Lebanon the order to cast the liquid cylinders from one of their Circle L structural alloys. This group of alloys offers a range of physical properties far in excess of those which can be obtained from regular steels. They find many applications in the oil field in pumps, valves, and fittings where superior properties are desired.

You can trust equipment which is made from a Lebanon Steel. Look for the Circle L on every Lebanon casting. It is an assurance of structural integrity.

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ORIGINAL AMERICAN LICENSEE GEORGE FISCHER (SWISS CHAMOTTE) METHOD

Lebanon STAINLESS AND SPECIAL ALLOY **Steel Castings**

Looking Ahead

WITH THE EDITOR

IT IS HARD TO BELIEVE, we know, but California operators with characteristic modesty admit that they have developed some new wrinkles in drilling practice that are quite the "berries"! Also, despite the dent made in their export market by the Japanese situation these fellows are going ahead with their search for bigger and better reserves. One of our Associate Editors has been hobnobbing with the California boys for several weeks and he has promised to expose some of their secrets in the several articles he is writing for early publication. Keep close watch on the next several issues and if it is from California you'll want to read it.

A SUCCESSFUL INDEPENDENT producer told us the other day that in his opinion, unit operation, as a general practice, is being forced upon the industry by current economic conditions. He educes from past experience and present participation in a unit plan, that the time has come when many fields can not be produced profitably unless operators embrace the efficiencies thus obtainable. Does this mean that we can expect economic pressure to accomplish what long has been advocated by some as the only sound basis for field development? Unit operation not only assures increased profit from lower costs, but it is the main road to true conservation. The Billings unit in Oklahoma, to be described next week, is one of the latest unit plans to be evolved and like others is proving highly effective. What these operators are doing can be done elsewhere, and as they say in the sales department: "to the mutual advantage of all concerned."

IF LETTERS, TELEPHONE CALLS and personal requests to the editor mean anything, a lot of you readers will be happy to learn that a new Gulf Coast Number of THE OIL WEEKLY is being prepared and will be issued September 23. At this point we strolled in to visit with our Gulf Coast District Editor who is already up to his elbows in this big issue. We were looking for something to whet your appetite and to our query he replied: "tell 'em to expect a lot of new and used figures including all the data anyone could want on the more than 50 new Gulf Coast fields and 100 new prospects!" Of course, our popular insert Gulf Coast map is being brought up to date on all fields and prospects, oil and gas pipe lines, and important highways are being included again since so many complained about their absence on our last map.

The OIL WEEKLY, Published every Monday. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.

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Made True in the Shop to
STAY TRUE IN SERVICE

You really find out how good BAASH-ROSS Kellys are after you have had one or more of them in service for months, or years. It is then—when you know from your own experience how they resist stresses that would put a permanent kink in an ordinary bar, how they rotate smoothly at all speeds, how the heat-treated, accurately aligned joints stand up through thousands of break-outs, and how the driving surfaces resist abrasion and wear — that you fully appreciate the importance of these specifications which govern the manufacturing, metallurgy and heat treatment of all BAASH-ROSS Forged Upset Kellys:

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Straight, Concentric Bore and uniform wall thickness, proved by exacting tests and checked by surveying, insure balance in rotation at all speeds.

Additional Heat Treatment of Joint Ends, in addition to the full-length normalizing, develops the maximum toughness for prolonged service life of threads.

Investigate values before you buy Kellys. Check specifications and field performance. And be sure that BAASH-ROSS Kellys are on the list.

COMPLETE ENGINEERING AND METALLURGICAL DATA COVERING BAASH-ROSS FORGED UPSET KELLYS WILL BE SENT ON REQUEST

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BAASH TOOL CO. ROSS

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Letters to the Editor

Conservation

DEAR SIR:

Re: the two articles on "Economics of Conservation" in THE OIL WEEKLY issue of July 29, 1940. I have read both of these articles carefully and agree that they are thought provoking. The principles discussed, particularly those concerning wider well spacing, unitization and cooperative development, are principles which have long been known and understood by students of conservation and the economics of producing oil. It appears to take such a very long time for these principles to be widely enough understood and recognized to be put into universal practice. It is trite to say that this is certainly an evolutionary business. Considerable progress has been made, but as these articles forcefully bring out, unless a speedy adoption by the industry of the actual practice of wider spacing of wells, there is no doubt that more and more operators will be forced into bankruptcy.

This subject is not a new one. C. H. Lieb stressed the importance of wider well spacing in a paper which he presented to the Mid-Continent Section of the A.I.M.E. on May 19, 1936. Ben Lindsey has long advocated efficient spacing as compared with close spacing and in one of his letters to me, he said: "On the subject of well spacing, probably the most difficult point to get across is the advantage purely from the standpoint of recovery per acre, of wide spacing or more properly efficient spacing, as compared with close spacing. It seems difficult to convince those who take a contrary view, that under certain conditions a certain well might drain completely one type of structure, or that an irregular staggered row of wells penetrating the same within certain contour limits part way down structure, might effectively drain another type—an old concept that a property must pay out in 3 years, belongs to history—With our present knowledge relating to sub-surface conditions, reservoir energy and the mechanics of fluid movement, these old concepts should be relegated to the scrap heap."

Many instances are pointed out and analyzed where wider well spacing under proper production control had fewer wells been drilled, the ultimate recovery would have been much larger than has been the case, Crescent, Lucien, even Seminole, Oklahoma City, only to mention a few.

One difficulty seems to have been to frame a law under which regulatory rules and regulations can be made to compel the elimination of unnecessary wells. James A. Veasey, in 1938, advocated the compulsory pooling of adjacent tracts into drilling units to conform to an established well spacing plan and contends, as do many other lawyers, that such a proposition can be sustained under our present law.

Certainly with the division of acreage as it usually is in a pool, some form of compulsory pooling will be necessary before wider well spacing than is now practiced can be accomplished. Oklahoma's law, upon order of the Corporation Commission, provides spacing under 10 acres or wider spacing upon agreement of 80% of the operators. This latter, of course, is sometimes difficult to attain. Kansas' law passed in 1939, makes provision for larger allowables up to double allowable for wells spaced wider than 10 acres up to 20 acres and while this has not been practiced long enough to realize its effect upon the average well division of the state allowable, it is gradually becoming a common practice in that state.

Probably the most practical method will be the adoption of setting "production units"—i.e., the area which can be most efficiently and economically drained by one well—not necessarily prohibiting a greater number of wells to be drilled, but to limit the per well allowable in ratio to the established production units or, in other words, to the acreage attributable to that well. This method appears to be more nearly sustainable from the standpoint of the operator and royalty owner as well, because it appears more nearly to give equity, provides a proportional division of the reservoir energy and can come more nearly sustained by competent technical evidence.

For the first time in several years, I believe that the A.P.I. Sub-committee on Well Spacing, under D. R. Knowlton, is now on the right track in its study of the well spacing problem and I hope that before too long that committee can make some definite recommendations which, not only will have legal support, but which the majority of competent engineers can agree upon. Assuming that this may be done, the next step, of course, is a uniformity of states' laws establishing or permitting the drilling of only the number of wells to efficiently drain a given area in a pool and, third, through the regulatory bodies a strict enforcement of such a plan. All this, of course, takes time and as forcibly brought out in the articles in your journal referred to, time is now the essence of this important problem.

The great difficulty is that all present pools which have been drilled on inefficient patterns would have to continue on something like "per well allowable plan" because its universal usage has been established so long that an immediate dislocation of it would upset the whole industry.

I do not know the remedy. Perhaps a strong advocacy by the Compact for more efficient and economical well spacing might have some effect. Certainly the question is a pressing one and you should be complimented on your policy of bringing it to the attention of your readers.

C. D. WATSON,
Vice President
The Carter Oil Company,
Tulsa, Oklahoma.

DEAR SIR:

I want to congratulate you on your recent Production Progress Number of THE OIL WEEKLY . . .

Also, I wish to say that I think your article on "Industry Faces Economic Crossroads" is an excellent one. It expresses my sentiments very completely. This subject has been rather an obsession with me and I feel that it is a basic ill of the industry. I believe that such articles as you have written are part of a necessary educational program and about the only means of

KOBE *Hydraulic* ALL-PURPOSE PUMPS

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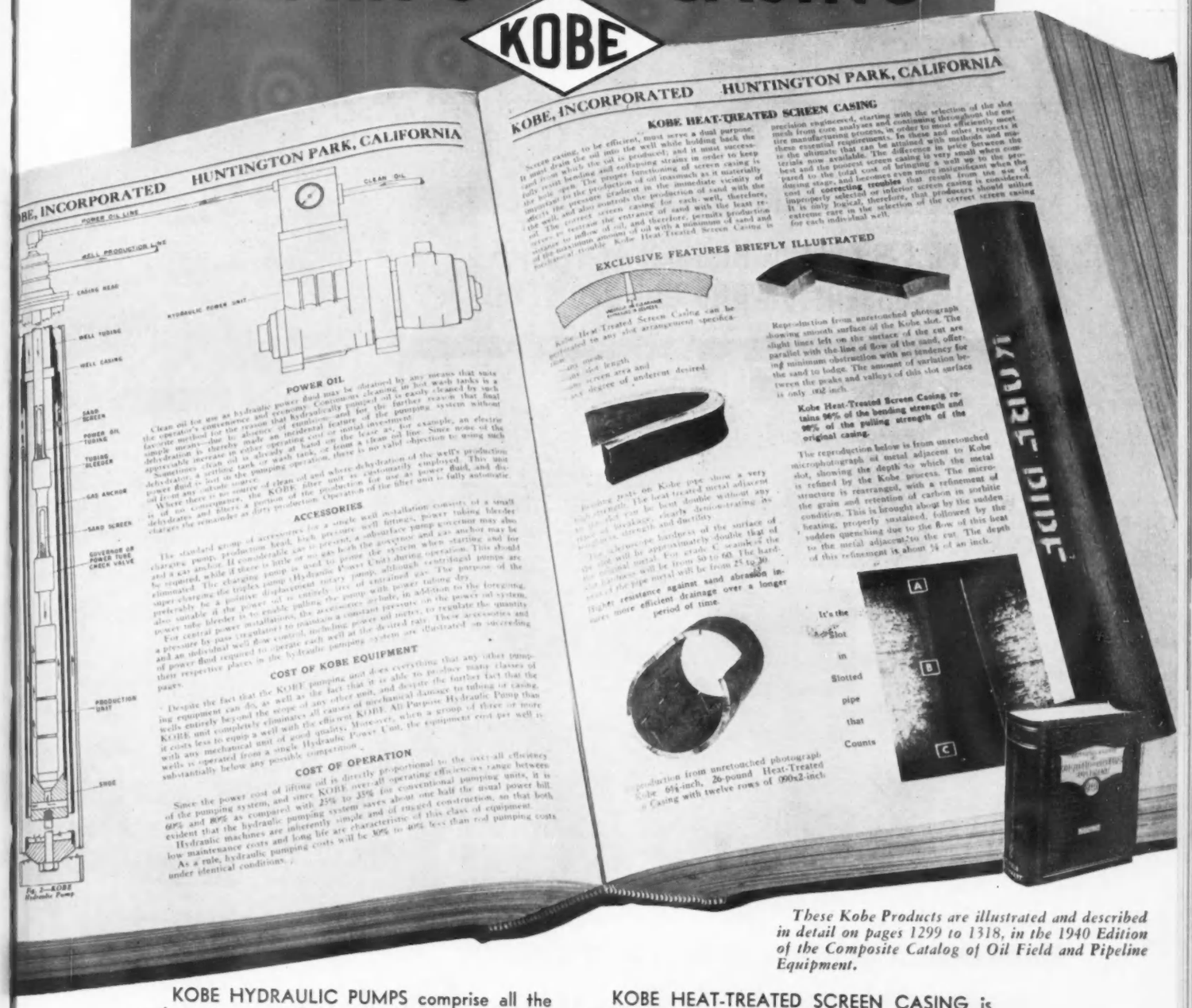
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Kobe Heat-Treated Screen Casing retains 90% of the bending strength and 90% of the pulling strength of the original casing.
It's the A-Slot in Slotted pipe that Counts
KOBE PIPE

These Kobe Products are illustrated and described in detail on pages 1299 to 1318, in the 1940 Edition of the Composite Catalog of Oil Field and Pipeline Equipment.

KOBE HYDRAULIC PUMPS comprise all the equipment necessary to produce oil efficiently and economically from wells of ANY capacity and depth, under ALL field, well and operating conditions. For full details, see pages 1299 to 1313, in the 1940 Composite Catalog.

KOBE HEAT-TREATED SCREEN CASING is superior to any other perforated pipe in bending and crushing strength. Its scientifically engineered slot and slot pattern can be adjusted to any specific set of well conditions. Full information on pages 1314 to 1318, of the 1940 Composite Catalog.

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breaking down the resistance against such constructive programs.

D. R. KNOWLTON,
Production Mgr.
Phillips Petroleum Company,
Bartlesville, Oklahoma

Deep Pumping

DEAR SIR:

In the July 29 issue of THE OIL WEEKLY, page 94, in the article "Can Wells Below 10,000 Feet Be Pumped?" the statement appears:

". . . lower volumes producible below 10,000 feet. The electric pump suffers little in this regard, but the extreme temperature becomes insurmountable with present insulation and bearing materials."

You charge this phrase to one of the respondents to your questionnaire, but it is a statement of unenlightened belief and not one of fact. The definiteness with which he speaks would lead the reader to assume the writer spoke with authority gained by wide knowledge of insulation and bearing materials and that his studied conclusion was that the state of the present art in those materials prohibits the use of electric pumps at temperatures found in 10,000-foot wells.

Having a fairly wide knowledge of the subject materials gained by ten years of application in this particular style of equipment to wells of all temperatures, we must conclude that the writer cannot speak with authority.

On page 100 of the same issue of THE OIL WEEKLY, in the second paragraph under "Centrifugal Pumps" you carry the report that glass insulation is now being used in Reda motors and cables to withstand abnormally high fluid temperatures.

Far from extreme temperatures being "insurmountable," we are prepared today to deliver 10,000-foot pumping units. While we fully appreciate the impossibility of an editorial staff being sufficiently familiar with the detailed art of every phase of the industry to weigh statements from separate sources, we deprecate the acceptance of anybody's statement that any problem is insurmountable.

What misconceptions will result from this statement can probably not be undone, but we cannot neglect this opportunity to point out the truth to you and your staff.

P. E. LOYE,
Vice President
Reda Pump Company,
Bartlesville, Oklahoma

We are pleased to make available to the industry Mr. Loye's additional comment on problems involved in producing oil from depths below 10,000 feet. The article referred to represents a composite of opinion of oil men presently operating 10,000-foot wells and, therefore, is not the editorial opinion of THE OIL WEEKLY or an individual. To develop the data published a survey was made, of oil men only, with the idea of obtaining a cross-section of current thought on the subject from an operating point of view. All statements made are from replies received. Comment on the symposium is invited, and possibly other equipment manufacturers would like to make suggestions or criticize the opinion expressed.

Gas Lift

DEAR SIR:

Apparently your July 29th issue has been very effective from a reader's standpoint.

Mr. Roy Lamb, Vice President of the MERLA TOOL CORPORATION, Dallas, Texas, clipped the article, "Gas Lift Becomes Major Producing Method" for his own sales kit and upon showing it to an operator was promptly relieved of that data.

He asked me yesterday whether I could not get him another copy, but upon searching my files I find I have given my copy to another party.

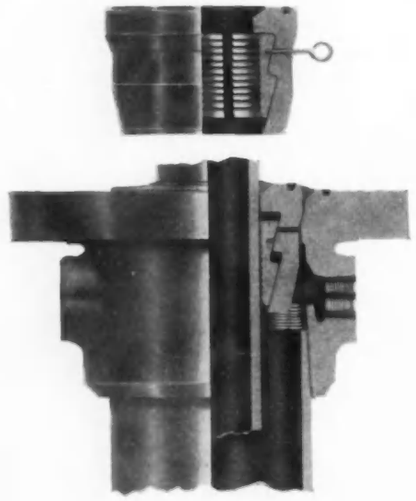
Will you please have tear sheets of this article which appeared on Page 62 sent to Mr. Lamb as well as another copy to me. We will both appreciate this service.

J. W. SIEVERLING,
J. W. Sieverling—Sales and Advertising Counsel,
Dallas, Texas

To Vice President Lamb and Advertising Counsellor Sieverling tear sheets requested and to Vice President Lamb our appreciation of the compliment he does us by adding equipment men to oil men in praise of the "Production Progress Number" of THE OIL WEEKLY.

BROWN

TYPE C-8 CASING HANGER FEATURES SLIP SUSPENSION AND WELDED SEAL



The Brown Type C-8 Casing Hanger shown in cross-section at left has several unusual features of design. Its 3-segment slips and solid slip bowl are assembled as a single unit by means of eye screws and stripped over the last joint of pipe. Removal of the eye screws permits the slip segments to drop to engaging position in the slip bowl and the entire assembly is lowered to its seat in the casing head. The hanger assembly may be lowered through larger sizes of flanged blowout preventer equipment.

The space between casing strings is effectively sealed by a double weld, one between the casing and the slip bowl and the other between the slip bowl and the casing head. A ring groove is provided on top of the slip bowl to accommodate a flanged tubing head. The extremely low overall height of the casing head provides a definite advantage where cellar space is limited.

The complete catalog of Brown equipment is filed in the 1940 edition of The Composite Catalog.

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HOUSTON, TEXAS

THE OIL WEEKLY

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The Oil Man's Calendar

AUG. 23	Interstate Oil Compact Commission, Oklahoma City, Oklahoma.
SEPT. 9–13	American Chemical Society, Detroit.
18–20	National Petroleum Association, Atlantic City, N. J.
OCT. 4	Western Petroleum Refineries Association, Regional Meeting, Wichita.
7–10	American Gas Association, Atlantic City, N. J.
7–11	National Safety Congress and Exposition, Chicago.
16–18	Independent Petroleum Association of America, Dallas.
17–18	American Institute of Mining & Metallurgical Engineers, Petroleum Division, Los Angeles.
25	Western Petroleum Refiners Association, Regional Meeting, Shreveport.
31–Nov. 2	Texas Mid-Continent Oil & Gas Association, Ft. Worth.
NOV. 1	California Natural Gasoline Association, Los Angeles.
11–15	American Petroleum Institute, Chicago.
1941 MAR. 11	Pacific Coast District, American Petroleum Institute, Los Angeles.
APR. 2–4	American Association of Petroleum Geologists, Houston.
24–25	National Petroleum Association, Semi-Annual Meeting, Cleveland.

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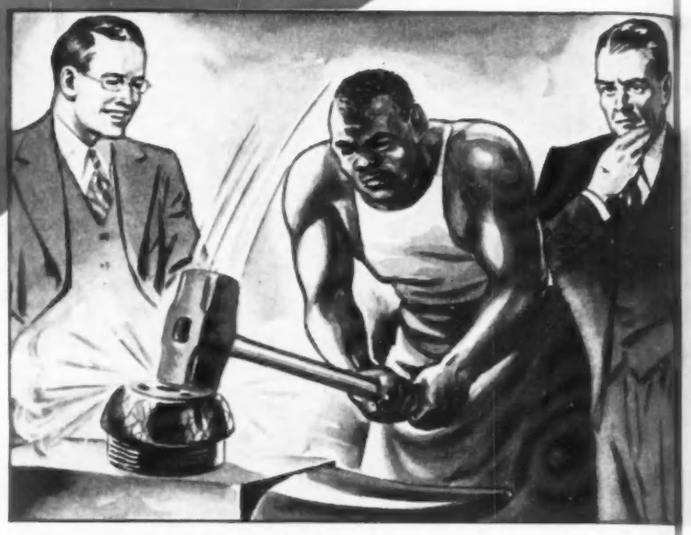
IF YOU DROP THAT GUIDE IT'LL BREAK IN A MILLION PIECES, BILL!
THERE SHE GOES! IT'LL HIT THE CONCRETE COURTYARD. LET'S GO DOWN AND SEE WHAT HAPPENED... I'LL BET YOU A DINNER THAT BAKELITE GUIDE ISN'T HURT A BIT!



LARKIN SHOE GUIDE DROPPED FROM THIRD STORY WINDOW TO DEMONSTRATE "SHOCK RESISTANCE" OF BAKELITE

1. A PROSPECT doubted the "shock resistance" of Bakelite used on Larkin Float Shoes. So Bill Larkin dropped it from a third floor window. Down went the guide! Plunging into the concrete courtyard below with a resounding impact, it bounced high, and landed without a chip or crack!

2. BUT THE PROSPECT wasn't fully convinced . . . so they to the guide to his machine shop. "Five dollars if you break t guide the first whack," said the prospect to a giant negro. T sledge merely bounced . . . the guide remained intact . . . provi the tremendous impact resistance of Bakelite.

Specific Gravi of bakelite in Guide is 1. Easy to drill floats comple in 12-lb. mud

3. "IF ITS SO TOUGH, how will it drill up?" asked the prospect, wondering. With a good-sized twist drill in a light drill-press the guide was drilled until it looked like Swiss cheese! The bakelite drillings were tiny and light. The bit went through easily!

4. "THOSE DRILLINGS would come up easy!" protested the prospect. "But what about cuttings with a fishtail bit?" So they put a fishtail bit in the chuck and the bakelite drilled out in tiny fragments, practically pulverized! "I'm sold," said the prospect.

5. RUN A LARKIN Float Shoe on *your* n string of casing. The shock resisting gu drills up easier. It has 7-sq. in. valve op ing... positive-acting, all-bakelite ball va ...and many other features that make it safest, most satisfactory shoe available tod

LOOK FOR LARKIN BAKELITE BALL-VALVE FLOAT SHOES in the 1940 Composite Catalog. You will find them described, in detail, on Page 1364.

LARKIN

Your Local Supply Store has Larkin Float Shoes in Stock.

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WAREHOUSE POINTS: Tulsa, Okla.; Great Bend, Kans.; Salem, Ill.; Houston, Odessa and Corpus Christi, Texas EXPORT OFFICE: New York Ci

THE OIL WEEKLY

AUGUST 19, 1940

VOLUME 98 NUMBER 11

The Week's Panorama

THE embargo on shipments of aviation gasoline to countries outside the Western Hemisphere apparently will virtually eliminate exports of that product.

• • • Of the 415,000 barrels of aviation fuel exported in May, only 28,000 went to the Western Hemisphere, while 152,000 went to France, 148,000 to the United Kingdom, 7000 to other countries in Europe, 29,000 to Japan, 8000 to other countries in Asia and Africa, and 43,000 to non-contiguous territories of the United States . . . In the first 5 months of this year, only 13 percent of the total shipments went to the Western Hemisphere, while 66 percent went to Europe, 11 percent to Asia, and 10 percent to non-contiguous territories.

• • • Heretofore, exports have constituted around one half of all sales of aviation gasoline, the shipments of 415,000 barrels in May having compared with domestic demand of 455,000 barrels.

• • • Curtailment of exports of aviation gasoline will not constitute, however, a material decrease of the American oil industry's total sales of gasoline. Less than 2 percent of all motor fuel production in the United States is aviation gasoline, and around half of the output was being used within the country before the embargo was invoked.

• • • Furthermore, domestic consumption is increasing steadily, along with expansion of aviation. And the national defense program will stimulate domestic use greatly when increased production of planes gets under way.

• • • For the fifth consecutive month, passenger traffic on domestic air lines established a new peak in July, and further increases are expected through October. This year's record likely will exceed 1,000,000,000 revenue passenger miles, against 677,325,511 in 1939.

• • • Plans of Dr. R. E. Wilson, oil adviser to the National Defense Advisory Commission, for government storage of aviation gasoline, now under study by defense authorities, contemplate storing at least 1,000,000 barrels of 100-octane fuel and up to possibly 10,000,000 to 20,000,000 barrels.

• • • The stocks of 4,000,000 barrels of aviation gasoline in storage in the United States at the end of May were 1,500,000 barrels greater than those held at the end of October last year.

• • • Production of aviation fuel has averaged about 900,000 barrels monthly since October, with plants operated at 60 percent of their capacity for turning out that type of fuel.

• • • It has been estimated that 2400 bombers and 1600 pursuit planes in the air 5 hours would consume 2,250,000 gallons of fuel, which is about the quantity held by a 55,000-barrel storage tank and nearly as much as the cargo of an ocean-going tanker.

• • • There is no great anxiety in California over the government's requirements for licensing of exports of petroleum products, as it is felt that the embargo will be confined to aviation gasoline and products readily convertible into aviation fuel, with authorities giving the regulations liberal interpretation. Shipments of fuel oil to Japan, for fueling Japanese ships, are expected to continue uninterrupted, although exporters must obtain a license for each oil shipment.

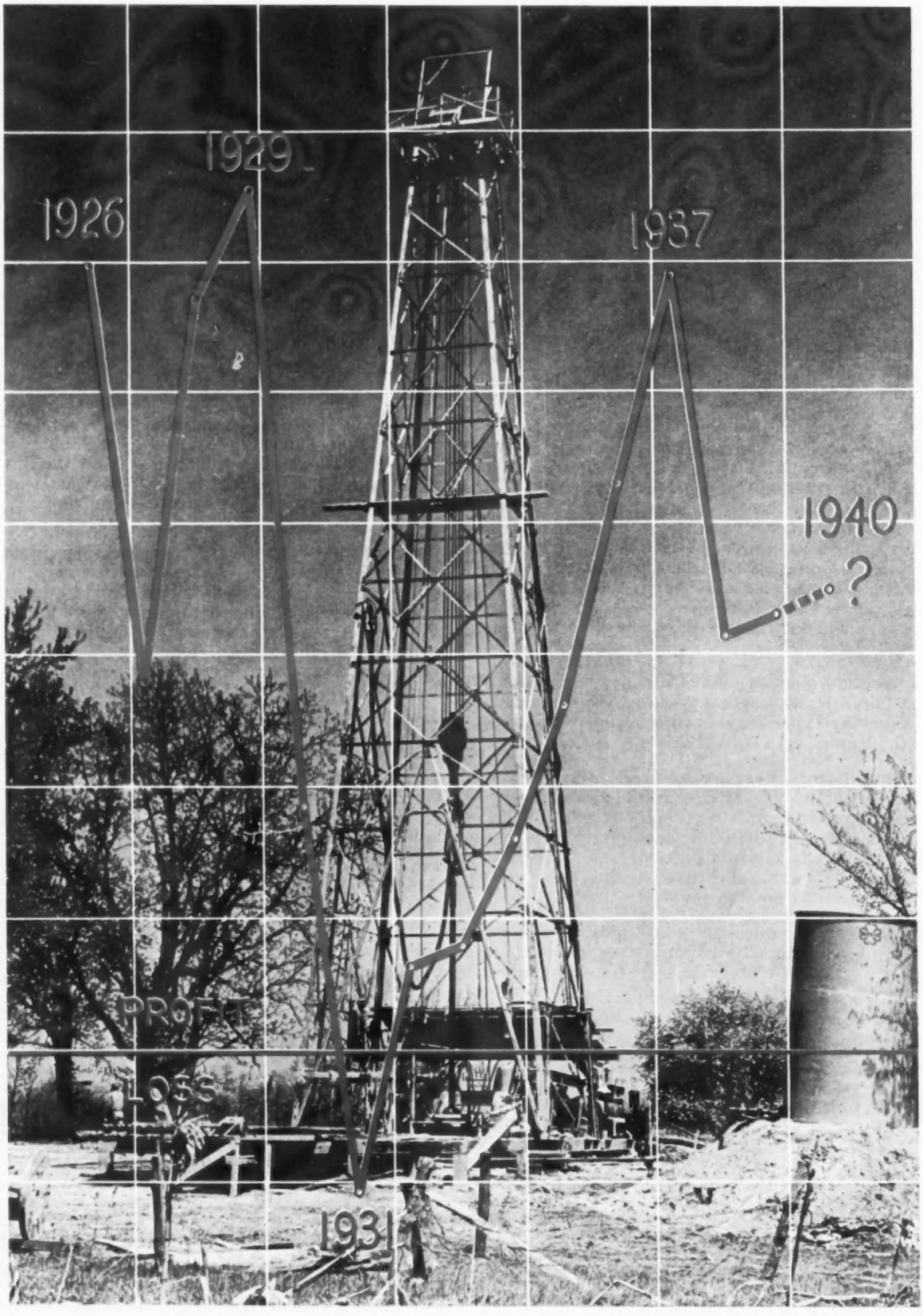
• • • If California's oil shipments to Japan should be embargoed, under the President's authority to stop any oil exports, the state would lose about 60,000 barrels daily of its market, and would be forced to cut crude production from over 600,000 barrels daily to 550,000, as stocks in storage in the state already are excessive.

• • • Californians point out that cutting off shipments of United States oils to Japan would encourage that country to seek oil in the Netherlands East Indies, whereas the U. S. desires to preserve the status quo in the Pacific.

• • • Domestic tanker rates have continued at comparatively low levels, with ample tonnage available and demand light. Rates for clean tankers are 19 cents a barrel for movement of gasoline from the Gulf to the North Atlantic, 20 cents for kerosene, 21 cents for No. 2 fuel. Dirty boats are available at 18 cents for shipping crude of 30 gravity or lighter and at 20 cents for 10-20 gravity fuel.

• • • Back around 90 percent of capacity, steel mill operations are about the same as in early December of last year. And activity is expected to continue high, particularly as production of 1941-model cars is due to bring early expansion of takings of steel by the automobile manufacturers.

• • • To take jobs in the metal working field in connection with the national defense program, men in Cleveland are leaving jobs as elevator operators, and are being replaced by women. This is one of the ways in which employment and consumer purchasing power may be expected to expand as the program proceeds . . . And for the oil industry, more jobs should mean larger sales of petroleum products.



Annual Earnings of 44 Large Oil Companies
Each horizontal line represents $100,000,000

First-Half Success Indicates Gain in Earnings for 1940

By L. J. LOGAN, Associate Editor

THROUGH the smoke and flame of war, the oil industry's future cannot be distinguished more than a few weeks ahead, and any estimate of earnings for 1940 is highly conjectural, despite the fact that the third quarter of the year already is well advanced.

However, if coming months should fail to bring any radical change in the present picture, 1940 should rank as a somewhat more profitable year than either 1938 or 1939, which were about "average" for the post-depression period.

Considering results in the first 6 months of this year, present circumstances, and predictable conditions of the remaining months, it appears that oil companies in the aggregate may earn around 5 to 10 percent more in 1940 than they did in 1939.

A better showing than that for this year as compared with last year seems doubtful in view of the unfavorable trends of prices this year and the comparatively poor prospects for earnings in the third and fourth quarters.

This Year Is 1939 Backwards

Apparently, 1940 will be roughly another 1939 in reverse, that is, exceptionally profitable at the beginning but progressively less satisfactory subsequently, whereas 1939 afforded relatively meager profits in the beginning but sharply improved results in the closing months.

Oil company earnings were held down in the first half of 1939 by comparatively low prices of gasoline, but they increased sharply after the European war broke out, as prices of gasoline and other products advanced materially.

The higher level of earnings extended into the first several months of 1940, with good fuel oil business helping materially, and the initial quarter was among the most profitable in the history of the industry, having been comparable with the like periods of 1929 and 1937. Markets weakened considerably in the second quarter, because of war-curtailed exports and surplus gasoline, and the possibilities for profit narrowed. But by virtue of the exceptionally good first quarter, earnings for the first 6 months of 1940 were somewhat larger than for the booming latter half of 1939.

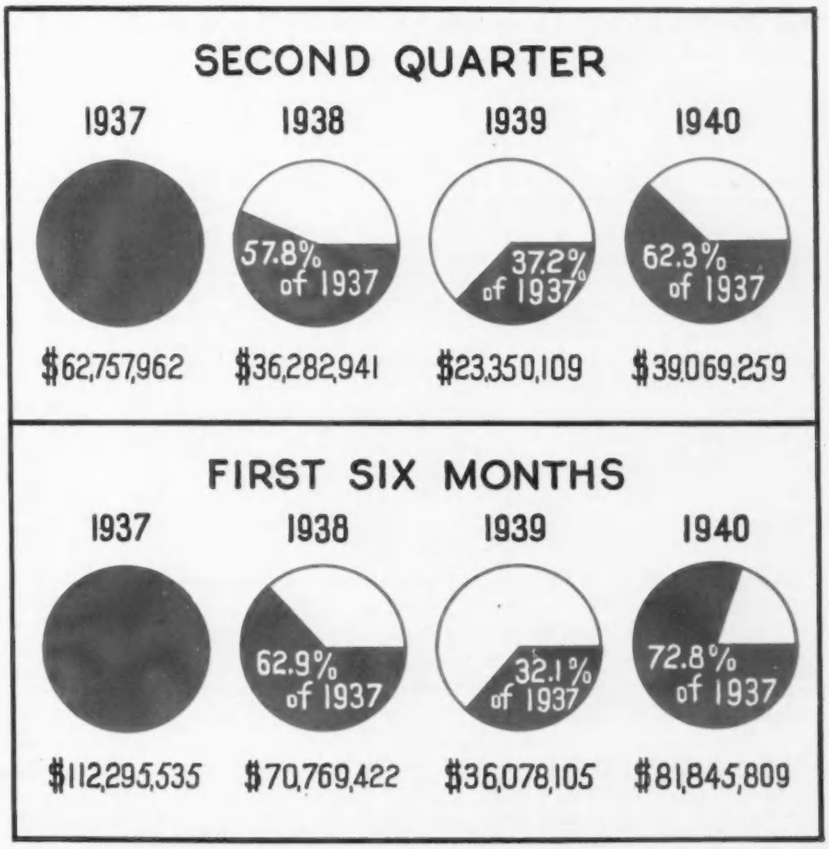
Third and Fourth Quarters

The unsatisfactory markets for products, particularly gasoline, have continued into the third quarter, which now is one half over, as the industry has remained handicapped by languishing exports and surplus gasoline. Consequently, earnings are likely to be relatively lean for the period, despite well-sustained demand for petroleum products.

Moreover, there is not in prospect for the final quarter any material improvement of the gasoline and export situations, and another obstacle now is faced in the form of higher taxes for bolstering the national defense. Consequently, earning power probably will remain at a quite moderate level also in that period.

It is possible that the national

Earnings of 23 Oil Companies



defense program will stimulate general industrial and commercial activity early enough to afford the oil industry larger volumes of business and better markets before the end of the year; and in such event, oil company profits could be expected to rise above current levels.

On the other hand, early termination of the European war, with Great Britain the loser, doubtless would cause a temporary setback of all business in the United States, including the oil industry; and the year might be near the end before the national defense program could bring business back around its present position.

All circumstances considered, it appears that the oil industry's earnings are not likely to be much greater for the latter half of 1940 than for the first half of 1939. For crude oil postings and gasoline prices are at about the same levels now as then, while total volumes of business also are similar, with decreases of exports largely offsetting increases of domestic demand.

If these indications for the latter half of the year should be fulfilled, the industry probably would show around 10 percent more profit for 1940 than for 1939.

Financial statements are issued only once a year by some oil companies, but results by half-years are accurately reflected in the statements of 26 companies, which together account for about one half of the industry's earnings. The earnings of those 26 companies have been as follows in recent years:

Year	Earnings Annual	Earnings First Half	Earnings Second Half
1937	$308,592,016	$153,854,040	$154,737,976
1938	175,679,910	93,842,328	81,837,582
1939	165,413,917	56,223,728	109,190,189
1940	.....	116,449,861	.....

First-Half Results

In a table presented herewith are shown the second quarter earnings of 23 oil companies from 1937 through 1940, as well as first-half results for those 23 and 6 other companies.

The 29 companies earned over twice as much in the first half of 1940 as in the similar period of 1939. Their aggregate first-half profit was $125,101,939 in 1940, compared with $60,304,673 in 1939, $99,260,435 in 1938, and $160,628,528 in 1937.

Among the 29 companies, there were, however, 10 that failed to do as well in the first half of 1940 as in the similar period of 1939, in reflection of weakened markets on the Pacific Coast and in the Appalachian region as well as somewhat lower average prices of crude oil. The best showings, relatively, were made by the integrated companies, because of favorable prices of refined products in the early part of the year; and earnings were particularly good for companies that were able to take advantage of the relatively low-priced crude oil available in Illinois, those concerns having included The Texas Corporation, Pure Oil Company, and Socony-Vacuum Oil Company, Inc. Other companies that showed noteworthy gains of around 50 percent or more for the first half of 1940 over the like period of 1939 included Atlantic Refining Company, Cities Service Company, Lion Oil Refining Company, Mid-Continent Petroleum Corporation, Phillips Petroleum Company, Shell Union Oil Company, Skelly Oil Company, Standard Oil Company of California, Sun Oil Company, Superior Oil Corporation, and Tide Water Associated Oil Company. Ohio Oil Company reported the best first-half earnings since 1937, as against a small deficit in the initial half of last year.

Gains ranging up to 37 percent were scored, meanwhile, by Amerada Corporation, Barnsdall Oil Company, Houston Oil Company, and Louisiana Land & Exploration Company.

Net Profits of Oil Companies Relatively Good for Second Quarter and for First Six Months

(Figures indicate net income after all deductions, including interest, depreciation, depletion, amortization, federal taxes, minority interest, etc., unless otherwise noted)

COMPANY	SECOND QUARTER 1937	1938	1939	1940	Percent Change 1939-1940	FIRST 6 MONTHS 1937	1938	1939	1940	Percent Change 1939-1940
Amerada Corp.	$552,991	$448,172	$355,228	$425,943	+ 19.9	$1,070,107	$883,061	[5]$674,989	[5]$885,364	+ 31.2
Atlantic Refining Co.	1,447,000	818,000	815,000	[2]2,143,000	+ 163.2	3,440,147	2,866,327	1,353,000	5,266,000	+ 289.1
Barnsdall Oil Co.	665,175	766,242	492,622	[2]732,391	+ 48.7	1,256,330	1,690,039	1,058,039	1,090,128	+ 3.1
Continental Oil Co.	4,193,336	1,281,510	2,069,280	1,007,852	— 51.3	7,884,529	3,086,707	2,537,280	2,388,286	— 5.9
Houston Oil Co.	456,046	358,052	145,618	96,106	— 34.0	925,413	841,535	527,508	574,609	+ 8.9
Lion Oil Refining Co.	356,012	294,068	226,997	207,780	— 8.5	431,264	595,000	215,178	378,876	+ 76.2
Louisiana Land and Exploration Co.	468,000	318,000	192,823	267,597	+ 38.8	[5]1,008,600	[5]771,000	[5]420,966	[5]507,329	+ 20.6
Mid-Continent Petroleum Corp.	1,860,735	574,264	678,793	714,370	+ 5.2	3,093,761	1,042,574	640,836	2,169,047	+ 238.8
Panhandle Producing and Refining Co.	[1]100,333	[1]16,254	[1]32,801	*29,918	— 191.2	[1]136,676	[1]16,254	[1]21,201	*16,886	— 179.6
Ohio Oil Co.	[3]3,250,728	[3]1,391,368	[2]154,993	[2]2,366,103	+1427.0	6,722,357	2,683,516	*142,559	4,658,397	.....
Phillips Petroleum Co.	7,063,443	[3]3,270,497	[2]2,288,536	[3]3,091,578	+ 35.1	12,679,080	5,585,139	3,774,069	6,378,198	+ 69.2
Plymouth Oil Co.	722,677	625,228	552,941	412,378	— 25.4	1,362,996	1,328,120	1,172,704	998,819	— 10.1
Quaker State Oil Refining Corp.	491,813	*259,851	277,584	*131,872	— 147.7	879,550	*158,379	554,790	159,245	— 71.4
Seaboard Oil Co.	638,853	437,157	384,380	259,543	— 32.5	1,230,218	893,886	785,431	762,492	— 2.9
Shell Union Oil Co.	4,806,448	2,922,990	1,684,156	4,135,788	+ 145.4	8,480,927	5,830,437	2,162,422	9,449,947	+ 336.5
Simms Petroleum Co.	*5,761	*10,674	21	*4,391	.....	*11,427	*15,868	*2,505	*7,561	— 201.7
Skelly Oil Co.	1,901,504	613,471	517,838	771,680	+ 49.0	3,435,918	1,278,241	756,918	1,544,961	+ 104.2
Standard Oil Co. of California	9,890,701	8,282,949	3,891,587	5,834,872	+ 49.9	17,780,191	15,413,435	7,117,604	10,369,495	+ 45.7
Superior Oil Corp.	94,524	82,273	35,722	32,434	— 9.2	136,691	194,945	51,868	76,978	+ 49.4
Texas Corp.	16,200,000	[2-3] 8,400,000	[3]5,650,000	[3]13,250,000	+ 134.5	27,000,000	[3]14,500,000	[3]7,000,000	[3]26,000,000	+ 271.6
Tide Water Associated Oil Co.	4,368,398	2,742,441	1,097,228	2,124,645	+ 93.8	7,696,701	5,992,705	2,331,410	5,904,865	+ 153.2
Texas Pacific Coal and Oil Co.[4]	235,006	260,530	209,452	113,148	— 45.9	455,506	500,748	415,812	292,840	— 29.6
Union Oil Co. of California	3,000,000	2,650,000	1,596,509	1,248,232	— 21.8	5,200,000	4,950,000	2,651,144	2,014,380	— 24.0
Total 23 Companies	**62,757,962**	**36,282,941**	**23,350,109**	**39,069,259**	**+ 67.4**	**112,295,535**	**70,769,422**	**36,078,105**	**81,845,809**	**+ 126.8**
Cities Service Co.	.....	.....	.....	.....	.....	5,322,878	5,149,832	3,176,742	8,281,642	+ 160.8
Pure Oil Co.	.....	.....	.....	.....	.....	[3]6,000,000	2,021,440	2,433,456	4,700,000	+ 93.3
Socony-Vacuum Oil Co., Inc.	.....	.....	.....	.....	.....	[3]32,000,000	[3]19,000,000	[3]17,000,000	[3]25,000,000	+ 47.1
Sun Oil Co.	.....	.....	.....	.....	.....	4,376,371	1,759,686	1,085,898	4,973,265	+ 279.2
Sunray Oil Corp.	.....	232,243	194,205	.....	.....	[5]572,060	426,654	349,413	261,191	— 25.2
H. F. Wilcox Oil and Gas	6,995	75,314	103,041	.....	.....	61,684	133,401	181,059	40,032	— 77.9
Total 6 Additional Companies, First 6 Months Only	.....	.....	.....	.....	.....	**48,332,993**	**28,491,013**	**24,226,568**	**43,256,130**	**+ 78.4**
Total 29 Companies, First 6 Months Only	.....	.....	.....	.....	.....	**160,628,528**	**99,260,435**	**60,304,673**	**125,101,939**	**+ 107.5**

* Net Loss. [1] No provision for federal taxes. [2] Based on a comparison of Company's reports for first quarter of fiscal year and the six month's period. [3] Estimate by Company. [4] After allowances for statutory deductions and credits, no provision made or considered necessary for federal income and excess profits taxes. [5] Compiled from first and second quarter reports.

Oil-Field Boilers Keep Pace With Rig-Power Requirements

DEEPER and faster drilling have stepped up rig-power requirements at both principal steam-consumption points. Pump pressures must be higher to deliver mud flow at greater depths and the drawworks engine, facing ever heavier loads when starting a long string of pipe out of the hole, must deliver augmented power to cope with drill pipe two miles or more in length. Furthermore, economic operation has been given more consideration by boiler users. These demands for increased power and greater efficiency have been passed directly to manufacturers of steam generating equipment.

Although manufacturers of this type of equipment are hampered seriously in the design and engineering of their product by severe restrictions imposed by consideration of mobility, there have been many improvements in steam equipment and auxiliaries in recent years. Since ready portability between locations is a prime requisite of drilling-power units, the boiler must conform to certain rigid highway limitations as to height, width and weight. Consequently, recent innovations in boiler construction have been to promote steam saving and toward greater steam-generating capacity per unit of weight and size.

That boiler makers have been able to improve the working efficiency of their products, despite the limitations of mobility, is best attested by the increasing number of tests being carried to depths exceeding 10,000 feet, and by the material reduction in drilling time on these deep operations. Depths of 13,000 feet are being attained frequently within 45 days and sometimes in shorter periods.

Records of boiler-fuel economy have been numerous. One Louisiana Gulf Coast operation drilled to 6151 feet on 1465.53 barrels of fuel, an average of 52.4 barrels daily.

THE accompanying article on trends in oil-field steam plants is the second of a series developed by THE OIL WEEKLY for men in the oil-field industry. The first article of this equipment series dealt with spudders and spudding equipment and appeared in the issue of April 29.

Similar articles presenting composite discussions of trends in the design, construction, application, operation and maintenance of various types of oil-field and pipe-line equipment will appear in later issues.

Working Pressures

In the equation for determining power of a steam engine, in which

$$hp = \frac{P \times L \times A \times N}{33{,}000}$$

P equals pressure, in pounds per square inch, L length of stroke, A effective piston area against which the pressure is exerted, and N number of strokes per minute. Since N is eliminated when starting a string of pipe and any increase in L or A would involve a corresponding enlargement of the drilling engine and thus add to its space requirements, only the factor P is left in which to make provision for greater power.

During the past few years boiler manufacturers have stepped up the rated working pressure of their top line steam-generating units to a generally accepted high rating of 350 pounds p.s.i., meanwhile holding the steam-generating unit within the limits of oil-field portability and overall dimensions. Two sets of 5 boilers each, engineered and built for working pressures of 500 pounds p.s.i., may be indicative of still higher pressure trend within the near future. It is noteworthy that these 500-pound units power drawworks engine, mud pumps, and some accessories, with a reducing valve cutting the pressure to the former high of 350 pounds for the rotary drive and stand-by units.

The oil-field steam-generating unit, an adaptation of the locomotive type of boiler to service in temporary settings, thus with its latest pressure increase has outstripped its prototype in working pressures carried and now approaches closely to ratings maintained by permanently located industrial or utility power plants where considerations of size and mobility do not hamper design and construction.

The steam dome is one of the features carried over from locomotive design, where it was required to afford space for the comparatively large internally-mounted balanced throttle valve as well as to provide additional storage space and insure dry steam when sudden changes in speed or direction and consequent inertia effect on the mass of water within the boiler piled it against one or the other of the tube sheets. This transplanted feature seems now to be disappearing from the oil-field unit.

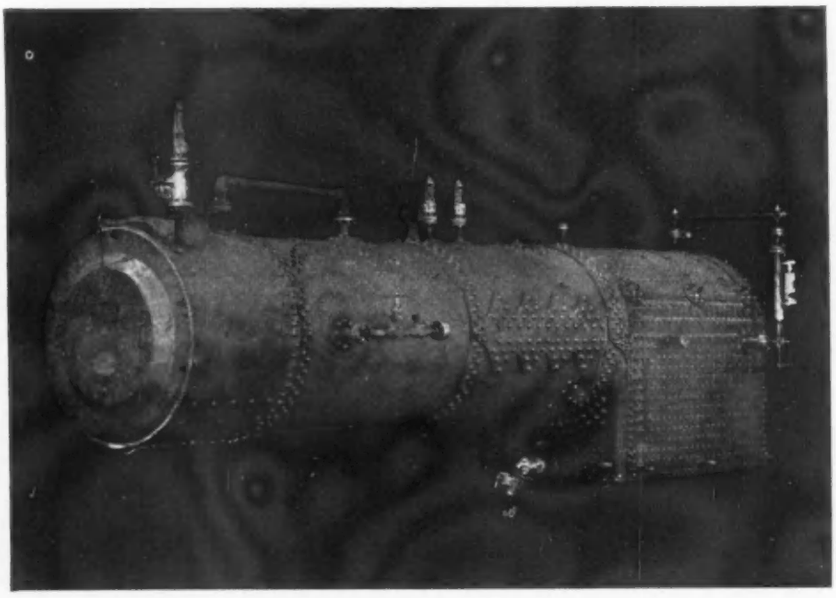
After a number of shifts, in which dome setting was alternately over the firebox or midway of the barrel, it is now in many instances either optional equipment, available as a separately built accessory bolting to the steam nozzle flange, or is eliminated from the high-pressure units being fabricated. One manufacturer offers either high- or low-dome boilers, eliminating the feature from an all-welded unit.

Where the boiler is domeless, dry-pipe provision varies widely, ranging from that condition where the steam nozzle opens directly

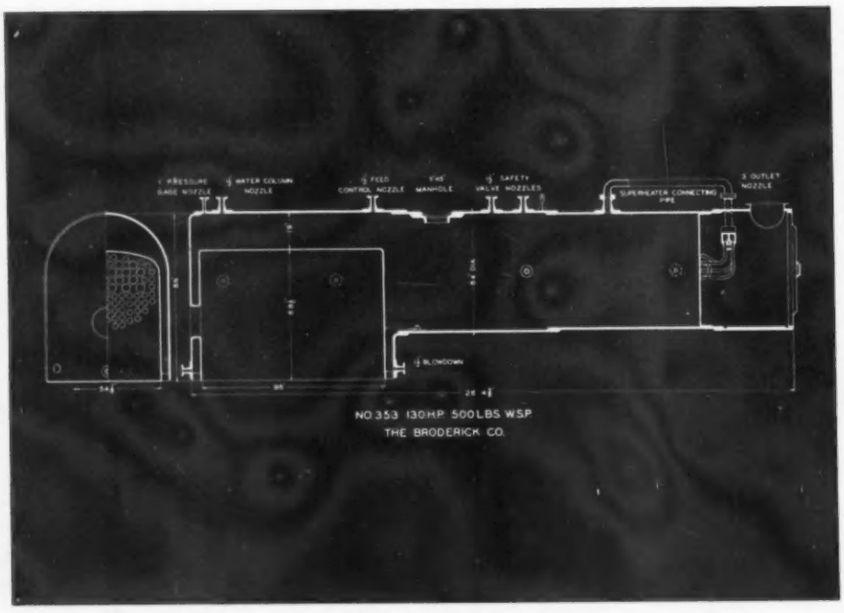
Trends in Oil-Field Boiler Design and Construction

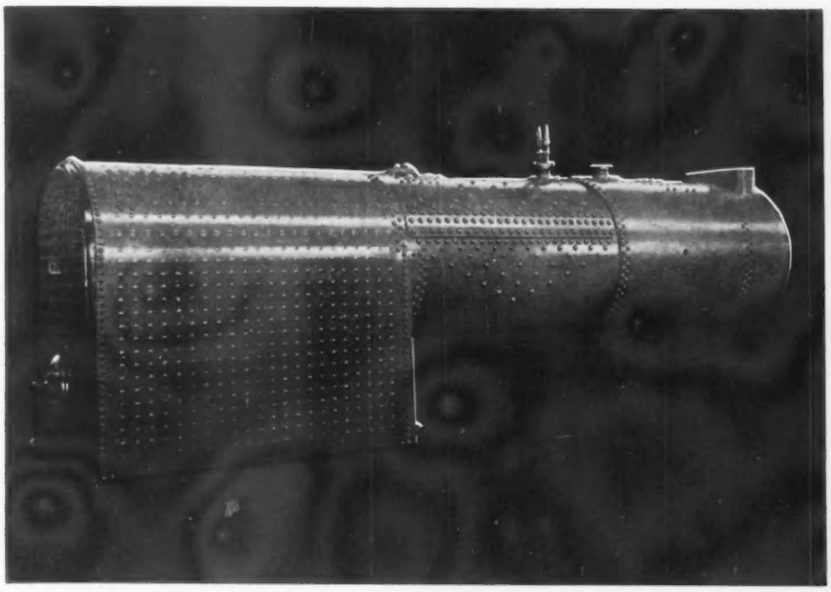
PRESENT trend of development in oil-field steam-generating plants to meet the increased demands made by deeper drilling and higher speeds is outlined in the following brief reviews of manufacturers' current types. Herein appear such advances as widened water leg, greater steam liberating area, welded fire box and other details, use of high tensile steel and other features by which the modern steam-generating unit is engineered and constructed to stand up under continued operation at 200 to 400 percent nominal rating. These descriptions brief each manufacturer's answer to the driller's demand for more steam and higher pressures, without exceeding present weight and clearance limits.

Units described are typical of each manufacturer's line, but no attempt has been made to cover his entire line, nor to present all information available on any unit made by that manufacturer.



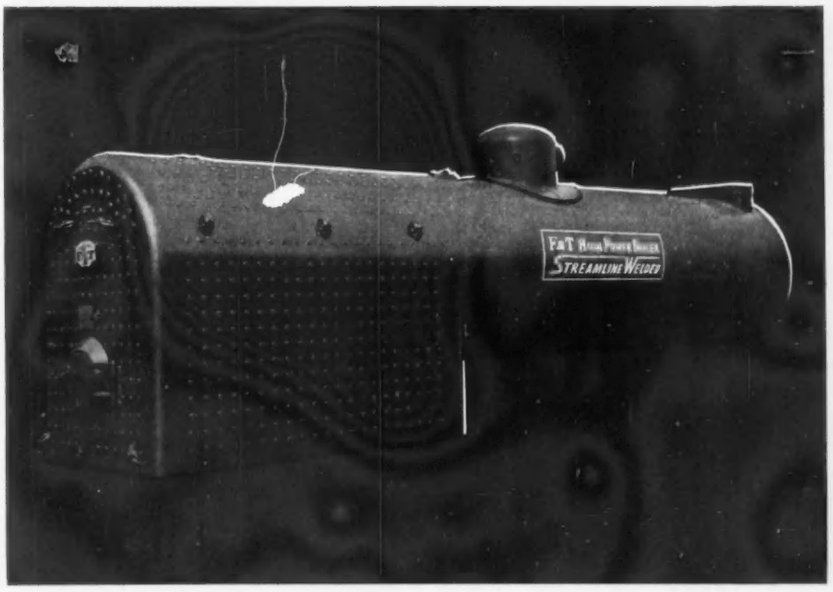
The Broderick Company, Muncie, Indiana, builds its No. 353 boiler, rated at 130 horsepower, steam working pressure 500 pounds p.s.i., with integral convection type superheater. Domeless, of conventional outside appearance, provision for higher working pressures is assured through the use of flexible staybolts in zones of maximum firebox expansion. Complete internal caulking of all seams, in addition to the usual external caulking, minimizes chance of caustic embrittlement. High-tensile steel and welded firebox seams give higher strength with reduced weight, enabling this unit to be kept within trucking limits. The overall length is 26 feet 4⅝ inches, and height from mud ring to wagon top 88 inches. Heavy gasketed door and welded bonnet with flat flange for stack attachment render smoke box air tight and improve draft conditions. All outlets are steel forgings, both ends flanged. A.S.M.E. and A.P.I. specifications rule throughout the design and construction.

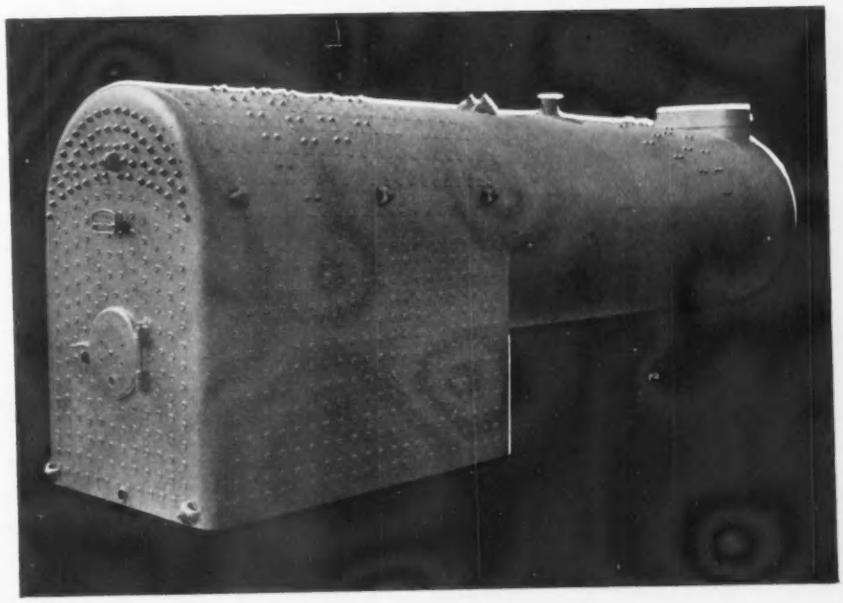




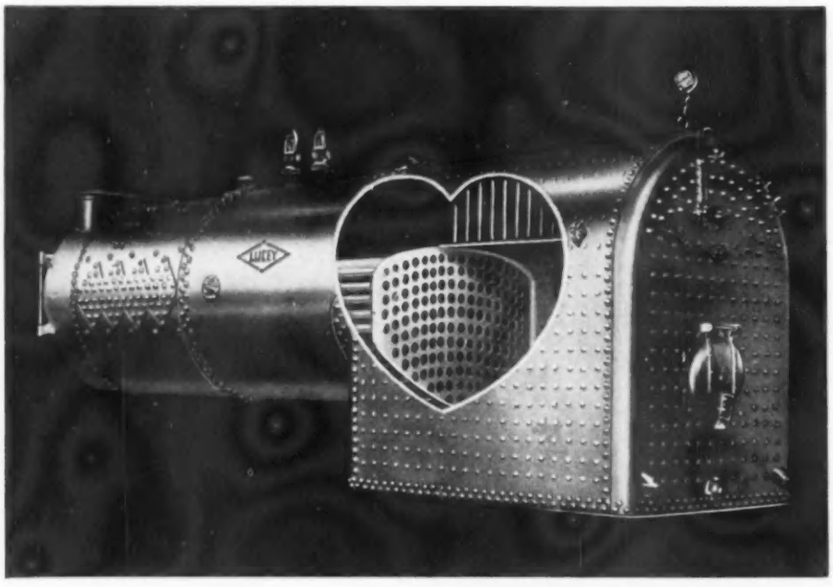
Donovan Boiler Works. Parkersburg, W. Va., builds its Series G oil field boiler, 150 horsepower, 350 pounds working pressure. Domeless, saturated steam type, with open bottom firebox. Firebox volume 261 cubic feet, heating surface 205 square feet. Tube-heating surface 1310 square feet. Tubes 2¼ inches diameter by 15 feet length, arranged in vertical rows. Twenty-inch clearance between shell and top of crown sheet, provides increased steam-liberating space with correspondingly higher water level. A dry pipe, specially baffled, is used to minimize "pullover" and insure dry steam to nozzle. Special outside steam dome is available with this unit if demanded. Dished smoke-box door, in one piece, is hinged, to continuously welded ring within smoke box, which, with welded bonnet, eliminates air leaks and improves draft. Outside dimensions: length, 27½ feet; width, 5½ feet; height, 8 feet 8 inches; boiler weight, without accessories, 37,500 pounds. Stack recommended: 30 inches x 28 feet. All 2-inch connections flanged.

Farrar & Trefts, Inc., Buffalo, New York, builds its all-welded boiler in two sizes, 130 and 150 horsepower for 300 and 350 pounds s.w.p. The 130 horsepower boiler carries low dome, with side steam outlet for straight connection to header. The 150 H.P. firebox incorporates inwardly tilted inner surfaces, allowing straight steam flow without blanketing. The water leg is tapered from four inches at the mud ring to five inches at the top, affording greater flow area as steam generation progresses. Wider bottom accommodates increased burner area where required for accelerated steam generation.

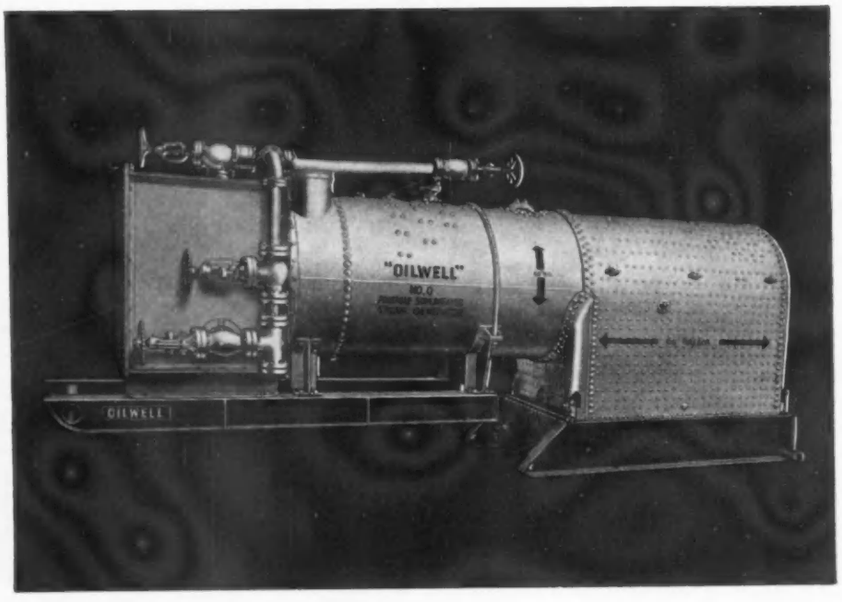




Kewanee Boiler Corporation. Kewanee, Illinois, now builds an all-welded oil-field boiler. This smoothline unit is illustrated in the 125 horsepower size for 350 pounds steam pressure. It is domeless type with 100% fusion-welded seams, that is, no rivets except for diagonal braces. Overall length is 23'5"; height 97"; width 66"; weight of boiler without trimmings 34,500 pounds. Absence of over-lapped plates and scarfed edges permits water to circulate freely in the water leg. There are no rivet heads to impede cleaning of scale and sediment around the solid steel mud ring. Marker strips welded on front head locate positively lowest permissible water level and highest point of crown sheet. Swing door with jib-type upper hinge permits easy access to smoke box. Dry baffle at top of steam space draws steam from disengaging area least disturbed by bubbles, then to supply nozzle. Tubes are arranged in vertical rows, ends rolled in drilled holes with five-roller expander, beaded, prossered, and inside of firebox weld-sealed all around.

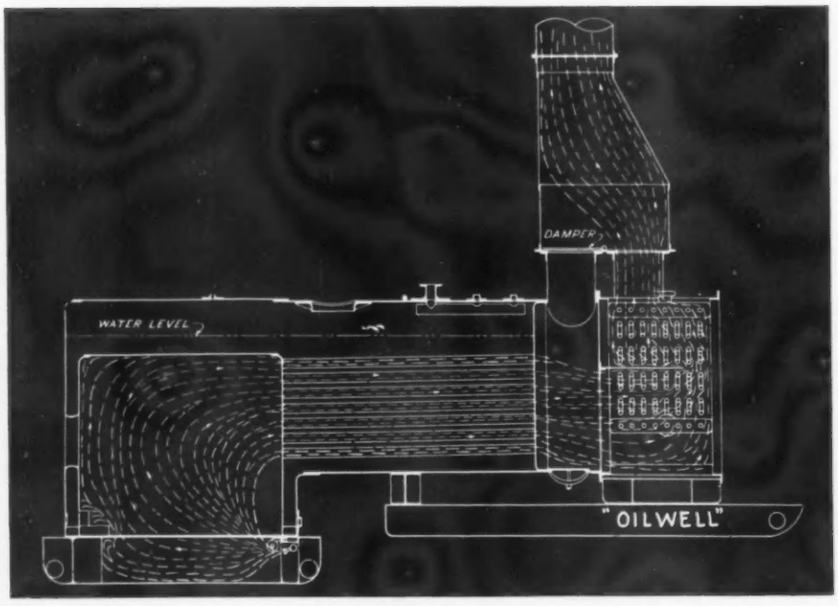


Lucey Boiler & Manufacturing Company, Chattanooga, Tennessee, builds its Oil-Country boiler, 150 horsepower, 350-pound working pressure, domeless type with welded firebox 60x72x96 inches, full open bottom with 1505 square feet heating surface and 233 cubic feet furnace space. 137 three-inch tubes, 13½ feet long, arranged in vertical rows, give 1327 square feet tube heating surface. Overall dimensions are: length, 24 feet 10 inches; width, 6 feet; height, 8 feet 2 inches; weight, 36,500 pounds. Dished smoke box door carried on offset strap hinges provides access to rear tube sheet. Bolted gasket construction and welded bonnet provide tightness for forced draft or blower operation without air infiltration. Location of steam nozzle over section of least disturbance, baffle and 20-inch vertical clearance between crown sheet and shell insure dry steam under full load conditions. High-tensile steel, A.S.T.M. A-149-36, 70,000-pound to 82,000-pound per square inch, is used throughout, permitting weight reduction for higher ratings.

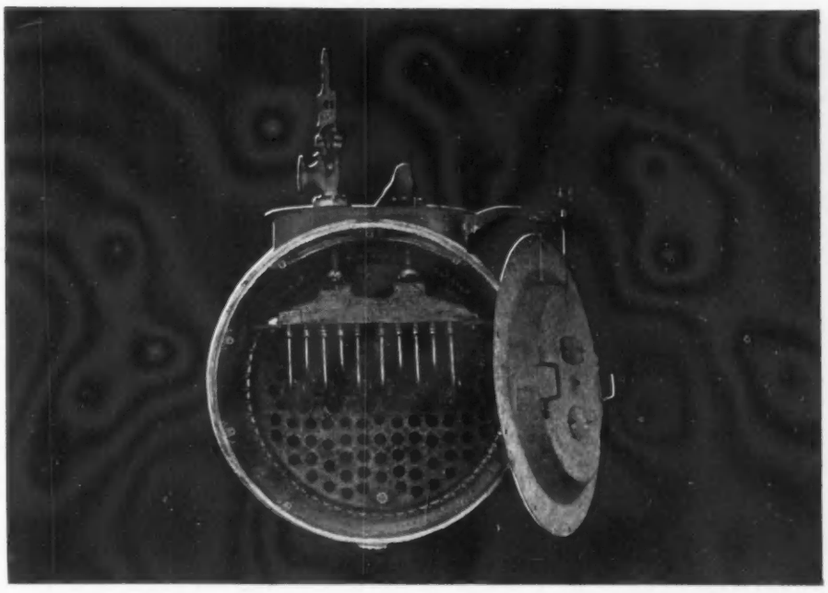


Oil Well Supply Company, Dallas, Texas, builds three sizes of portable superheated steam generators designed for 350 pounds per square inch working pressure. The largest size (illustrated) has tubes 8 feet 9 inches long with 106-inch firebox and 68-inch barrel. The short-tube construction in relation to the large firebox results in the working of all of the tube heating surface at a relatively high rate and in relatively high smokebox temperatures. The high heat content of the flue gases at the smokebox is utilized by passing these gases over the steam-carrying tubes of the superheater section, which is attached to the smokebox of the boiler section. Baffles direct the flow of flue gases counter to the flow of steam, making possible the greatest amount of superheat in the steam and the lowest flue-gas temperatures in the stack. With this construction, the superheater elements are inherently protected from burning out.

The "Oilwell" portable superheated steam generator may be equipped with a portable duck's nest with turbo draft fan and burner arrangement for firing with either gas or oil. This accessory provides the advantages of increased firebox volume, longer flame travel, and positive pressure which fills the entire firebox with the products of combustion and results in uniform temperatures throughout the entire tube bank.



Superheater Company, New York City, builds an integral, convection type superheater following locomotive practice which is installed in oil-country boilers by the various manufacturers offering this type of superheat equipment. The unit consists of a cast-steel header carried on brackets within the smoke box, each steel coil being looped and supported at intervals in a vertical pair of tubes. Integrally forged return bends and ball joints eliminate welds from tube design, while ground ball joints assure steam-tight connection to header. A safety valve carried on superheater outlet T, set below boiler safety valve, insures steam flow through superheater coils in case of overfiring. Air bleeder prevents binding of unit before steam flow is established.



from the top of the barrel without protection to another where an inverted T-shaped steam collector extends both ways along the barrel with baffles and traps to insure as dry flow of steam as possible.

Where no steam dome is included in boiler design, the clearance between crown sheet and the highest point of the barrel is found to range close to 20 inches. In a shell with 69 inches inside diameter, this provides approximately 4 square feet of steam liberating area per foot of length and greatly reduces turbulence and tendency to prime existing where the water level is proportionately higher and steam liberating area is consequently restricted.

Increased Steaming Area

Increased steam-liberating area within the shell goes far toward solving problems of "pull over" in field installations where bad water furnishes the greatest operating problem. Foaming and other undesirable steaming characteristics increase in severity as steam liberating area is restricted, and once formed within the boiler are not removed to any appreciable extent by the comparatively restricted area of a steam-dome opening. Suppression of this trouble through increased steaming facilities is more efficacious than attempts at removal afterward.

Scale accumulation, widely considered a necessary evil in oil-field steam generation, is combatted in late boiler types by a number of refinements over earlier practice. Tubes are set in vertical rows, with ample space between the rows to permit cleaning. Water legs are made wider, and elimination of staybolts at or near points of clean-out openings permits more effective removal of loosened scale, sludge and mud. In some boiler types, welded barrels eliminate the step or offset formed in telescope-type riveted units, enabling waste to be flushed cleanly to the point of removal.

The controversy over superheat is one which the past three years of boiler advance has not settled. Some manufacturers offer both superheat and saturated types of boilers, others specialize on one or the other type, while one builds a unit in which the superheater is separately assembled, yet a necessary part of the steam-generating plant if fuel economy and effective steaming are to be attained. On the side favoring superheat are claimed the advantages of reduced line condensation, equivalent power for reduced weight of water evaporated, more effective power output on both drilling engine and steam pump, and more effective utilization of heat energy in fuel. Favoring saturated steam are urged the continued use of hydrostatic lubricators, greater freedom from possible shut-down in case of a burned out unit.

Where superheated steam is used for drawworks engine, rotary-table drive and mud pumps, elimination of the saturated steam take-off so frequently used for auxiliary equipment will concentrate all steam demand on the header into which the superheater is connected. This change provides all steam flow through the coils, which with modern fuel and water controls, insures against the firebox ends of the superheater coils being burned or overheated.

Superheater

The separately fired superheater, featured some years ago, apparently has been widely superseded by the internal convection type paralleling railroad locomotive practice or by the specialized design which attaches to the boiler in place of the conventional smokebox. This change is in line with the concerted effort to simplify boiler design and eliminate supplementary operating and maintenance.

Typical of the attention now being paid to features formerly considered non-essential or mere sales points is the provision now being made to better smokebox and bonnet construction. In most instances newer boilers are fitted with dished, reinforced or outwardly bulged smokebox doors, usually carried on heavy hinges and capable of being handled by one man. Heavy, welded-in flanges or rings afford a firm support for the door when bolted in closed position, also supplying adequate gasket bearing to allow a gas-tight seal to be made between box and door. The bonnet, of standard A.P.I. dimensions, generally is welded to the shell or riveted and seal-welded at either inner or outer contact to provide adequate closure at this point.

Stack Draft

Natural draft, secured with tall stacks formerly characterizing oil-field settings, now is considered in many quarters as inadequate for

carrying away waste gases when the steam-generating unit is delivering from 200 to 400 percent its nominal rating. Under the sudden loads imposed in present-day drilling practice, even the 400-percent mark is frequently exceeded for short periods, with consequent augmented fuel requirement and greater demand on stack performance.

Fans, operating either as positive blowers or as stack exhausters, divide the forced-draft field with the induced type of draft obtained through steam jet located either in the base of the stack, at the top of the smokebox arch or in a venturi section incorporated within the stack itself.

The jet, while using much more steam than a well-designed mechanical aide to better draft, sometimes is preferred by the field man over the blower because of the reduction in auxiliary weight incurred and the fact that the only upkeep incurred is the infrequent replacement of the controlling valve when it is cut out by protracted steam flow.

Stacks provided for either type of forced draft are much shorter and thus of relatively greater mobility than those furnished when natural draft is relied upon to remove waste gases. The trend toward shorter stacks and self-supporting units is in line with the aim to limit the number and weight of pieces to be transported between jobs, and a desire to cut down on the time required for set-up.

Where forced draft is applied at the firebox and combustion is carried on under pressures greater than atmospheric instead of in slight vacuum, only sufficient stack need be included to provide for carrying waste gases upward far enough to insure clearing the fireman's post, or possibly to prevent recirculation of the spent gases through the boilers with consequently impaired steaming performance through admission of air fouled with products of combustion instead of equal volume carrying normal percentages of oxygen. Demonstrating the fact that no stack need be provided under strictly proportioned combustion conditions, one battery of steam-generating units has been operating satisfactorily under firebox forced draft with no fixture or extension above the bonnet or stack breeching atop the final pass of the superheating unit.

Enlarged Firebox

Earlier types of oil-field boiler fireboxes, admittedly a compromise between good combustion principles and transportation demands, have given way to a greatly enlarged box, with an inside length of 8 feet or more in the units rated 125 horsepower or more at 350 pounds working pressure. Full open bottoms permit supplementary firing space below the water-carrying space of the boiler and permit additional vertical clearance for attaining more complete combustion before the incandescent gases first impinge against metal.

This change in firebox design greatly augments steaming horsepower, but fails to indicate fairly this greater capacity in rated or nominal power. This value is arbitrarily based on outmoded tests which fixed the average boiler horsepower at 1 for each 10 square feet of heating surface. Since in this formula a square foot of heating surface added to the firebox area increases the nominal rating no more than a similar increase at the smokebox end of the tubes, it is confusing for the field user to insure himself adequate steam generating capacity if he rely solely upon the formula.

Latest firebox designs ignore the formula penalty in an attempt to step up steam generation by increasing the area exposed to radiant heat, even at the expense of curtailing areas where heat transfer by convection is obtained. Since radiant heat is proven by tests to be nearly ten times as effective as convective transfer for steam-generating purposes, increased firebox area brings most rapid increase in steam-generating capacity of a given unit.

Limitations on firebox dimensions are those inherent in oil-field boiler design, with but one direction unhampered by these limitations. Internal height of the firebox is restricted by best crown-sheet location, which must not exceed at its highest point the fixed low-water level for the unit, and which in turn is limited by the desired clearance or steam liberating space between working water surface and top of the barrel.

Greater depth of water leg is a method of extending the firebox vertically, but requires the provision of new die sets, calls for longer sheets, and extends downward the overhang of the firebox when the unit is being carried on truck or slung between trailer and truck during rig shifts.

Width likewise is hampered by clearance conditions and the available hauling units for boiler transportation. Only in firebox length is the designer unhampered, with the result that greater firebox area is being secured by extending the firebox farther into the boiler. On units rated at (nominal) 125 horsepower and over, generating 350 pounds working pressure, firebox lengths of 96 inches and up are customary.

Since most oil-country boilers are oil or gas fired, this elongation of the firebox, giving an average height-length ratio of 1:1.37, facilitates horizontal feed of fuel and air into the firebox to provide maximum travel before contact with cold metal arrests combustion and promotes soot formation. Where vertical firing or maximum turbulence is desired in the firebox, ducksnests, or firebrick structures extending into the ground below the mud ring are as effective as upward extension within the firebox for providing greater flame travel and thus bettered combustion. Where such additional space is thus secured, adequate seal between boiler and substructure is necessary to control air admission and draft proportioning.

Greater flame travel before initial impingement also may be secured through the construction of dutch ovens under the standard boiler firebox. These structures require additional foundation, and whether projecting under the barrel or past the front of the boiler, must be protected against weathering and heat loss. These refinements in firing are perhaps justified only when a boiler setting is to serve a unit drilling a number of directionally controlled wells from one location or where a central location and extended steam lines carry power to as many as four separate rig settings.

Welding

As with domes, the question of welding seems to be a matter of gradation. Boilers are available from at least two manufacturers with all seams welded in conformity with the A. S. M. E. boiler code, which requires complete normalization and X-ray inspection of seams or welds. These same manufacturers, together with others specializing in oil-field steam-generating units, offer other units with wide choice of welded parts, ranging from mud ring to firebox, barrel and dome and outlet fittings.

The welded mud ring, with its elimination of staybolts close to the ring to hamper cleaning of the base

of the water leg, aids appreciably in providing longer life to the unit. Further change at this point includes widening of the leg upwardly, so as to give greater volume for the mixture of steam and water as it flows upward under active steam generation. One type of water leg, thus widened at the top, also slopes the sides inwardly toward the firebox a matter of 3 inches in the section below the arch, from the maximum at the mud ring, endeavoring to permit steam bubbles to flow upward in vertical paths without again contacting the sheet and possibly causing steam blankets to restrict steam generation. A pronounced trend toward wider water legs, with increased taper from bottom to top, is noticeable. Where 3 inches was long considered sufficient width at the spring of the crown sheet arch, this figure now averages 4½ inches, with at least one unit featuring a 5-inch opening at this point.

Staying of tube sheets, crown sheets and other sections of the boiler is through the usual staybolt construction, with at least one manufacturer incorporating the flexible staybolt — borrowed from railway locomotive practice and long used satisfactorily there—at points where expansion stresses and temperature changes range most widely.

High-tensile steels, ranging upwards of 70,000 pounds p.s.i. ratings, are available to boiler manufacturers, and are enabling minor and hardly noticeable changes to be made in oil-field boiler design. These changes due to better materials enable higher capacities to be reached within or below former weight and size limits, and thus assist the manufacturer to pack more boiler horsepower into a given space than he could have before high-tensile steels came to his aid.

Whether further developments in oil-field steam-generating units will follow those in the past, and consist of refinements to the basic design as now used and adopted from early railroad locomotive equipment, or whether the next few years will find steam-powered equipment drawing its supply from "flash" type steam generators of the continuous tubular type such as are now finding place in specialized railroad locomotive applications is a matter which time, the manufacturers and the drillers themselves must answer.

It is a safe prediction that, granted undisturbed conditions for progress and development, the next five years will see at least experimental drilling power plants utilizing compact "flash" type generators and prime movers efficiently using steam at throttle pressures of 700 pounds p.s.i. or higher.

Removing Paraffin from Pipe and Sand Face With Carbide

By F. R. COZZENS

CARBIDE is finding increasing use in the stripper areas of Ohio and West Virginia to remove paraffin from sand bodies at the bottom of wells. A hydro-carbon soluble at 80° F. or higher, the paraffin may be removed when heat is conveyed directly to the oil sand. Carbide furnishes the necessary heat without extensive surface equipment.

In the treatment, tubing and rods are removed from the well, the hole is bailed as dry as possible, and the shot-hole or reservoir is filled with water. A nipple or section of pipe about 8 feet long, open at the top with a slot cut in the side, is screwed into the casing head to permit escape of carbide fumes over and above the workers' heads.

Carbide, in ¼ x 1-inch chunks, is rapidly dumped down the casing through the slot in the fume pipe, 100 pounds of carbide used to each barrel of water in the reservoir. The carbide, on reaching the water in the shot-hole, starts a chemical action that generates heat, raising the temperature of the water to from 100 to 125° F. After the well is allowed to stand for an hour, the fume pipe is removed and the shot-hole bailed out while the residue, which contains the paraffin, is still hot.

The action of the carbide also results in caving of the sand body, and when this accumulation is removed, a fresh sand surface is provided in the well.

In a typical stripper district having an average oil production of 2 barrels per well per week, an increase to 13 barrels per well was recorded after carbide treatment. The average amount of carbide used was 800 pounds per well. In a field left inactive for 2 years because of paraffin, production averaging 3 barrels per well per week was obtained after the use of carbide. In gas-producing districts, fully 80 percent of wells treated with carbide responded by increased volume with a cleaner gas.

Cost of carbide in the commercially cut form is around $4.65 per 100 pounds. It is not necessary to use this form, however, although it presents an advantage in ease of handling and speed by which it can be dumped down the casing. The faster the carbide is dumped, the more efficient the agitation and temperature rise. Since the introduction of carbide in stripper fields, there have been no reports of damage to wells. Results are prompt, and the treatment has been found highly favorable in practically all types of sand.

Line Current Calculations May Be Performed Graphically

By W. G. WILSON, Engineer, Arkansas Fuel Oil Company

CATHODIC protection is rapidly becoming an important means of arresting corrosion of pipe lines, tank bottoms, and other underground structures.

To secure maximum benefit from expenditures for such protection it is essential to accumulate considerable information relative to each proposed installation in order that the project may be designed in the most efficient manner.

This information includes much data from available records, such as size and age of pipe, type of joints and coating, location and frequency of corrosion leaks, character of the soil, topography, and numerous other data.

This available data is usually supplemented by special tests to determine other pertinent factors, such as the magnitude and character of electric currents on the line, the potential of the pipe with respect to the soil, and the electrical conductivity (or resistivity) of the soil. Careful analysis of all such available data will give a picture of the true conditions to be dealt with.

A line current survey, when made, is usually relied upon to indicate the direction and relative magnitude of flow of electricity rather than a precise indication of the actual amount of such currents. In this case it is convenient and satisfactory to make the measurements and present the data, possibly in the form of a graph, in terms of millivolt drop per 100-foot section of pipe, or any other appropriate distance.

However, there are occasions when it is essential to convert all current observations to amperes, if an intelligent analysis of conditions is to be made. This procedure may be desirable when pipe of several sizes or weights is involved and/or when it is impractical to measure voltage drop over uniform distances.

For example, if current is flowing in a compressor station or refinery where a maze of gas, water, oil, air, vacuum and steam lines of various sizes is all more or less electrically continuous and where voltage drop measurements can often be made only on random short lengths of pipe, it is evident that millivolt drop readings in themselves are meaningless. In such a case it may be necessary to balance current flow much as one balances a set of books, showing where the current is picked up, how it distributes itself over possible circuits and where it is lost.

It is not difficult to calculate, by fundamental formula, the current involved in each measurement. The fundamental formula is:

$$I = \frac{E}{R}$$

where I is the current in amperes.
E is voltage necessary to produce the current.
R is the resistance expressed in ohms.

But R varies directly as the length of the conductor and inversely as the cross-section (or weight per foot) of the conductor:

$$R \text{ varies } \frac{L}{W_f} \text{ or } R = \frac{KL}{W_f}$$

where K is a constant.
L is length of conductor in feet.
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The fundamental formula then becomes

$$I = \frac{E}{\frac{KL}{W_f}} \text{ or } \frac{E\,W_f}{K\,L}$$

For example, assume there was a measured voltage drop of .015 volts (15 millivolts) over a distance of 50 feet of 6-inch 18.97-pound pipe. The specific resistance of ordinary steel pipe is in the order of .0002158 ohms (215.8 microhms) per pound foot. Substituting in the above formula the amount of current may be readily determined:

$$I = \frac{E\,W_f}{K\,L}$$

$$= \left(\frac{.015}{.0002158}\right)\left(\frac{18.97}{50}\right) = 26.4 \text{ amperes}$$

This calculation is simple, but solution of a series of such problems in the field takes considerable time and there is always the possibility of error. However, the formula may be expressed in the form of a chart which permits rapid graphic solution of this type of problem. The example worked out on the chart indicates the procedure.

Nominally the chart is of limited range, but actually it may be used over any range, as will be demonstrated.

In the problem solved by formula we had 15 millivolts drop in 50 feet of 6-inch pipe. The chart does not extend to 15 millivolts but does include .015 and .15 millivolts. Using the .15 we arrive at an answer of .263 amperes. Obviously 15 millivolts represents 100 times as much current as .15 millivolts. Hence the correct answer is obtained by multiplying .263 amperes by 100, or 26.3 amperes.

If the distance were 200 feet instead of 50 feet the problem could be solved for 20 feet and the answer be divided by 10 or for 100 feet and the answer be divided by two.

If small diameters are encountered, such as 2-inch 3.65-pound pipe, the problem may be solved for 36.5-pound and the answer be divided by 10.

In so using the chart the only precaution is to be certain as to whether the indicated answer should be divided or multiplied by 10, or whatever correction factor is used.

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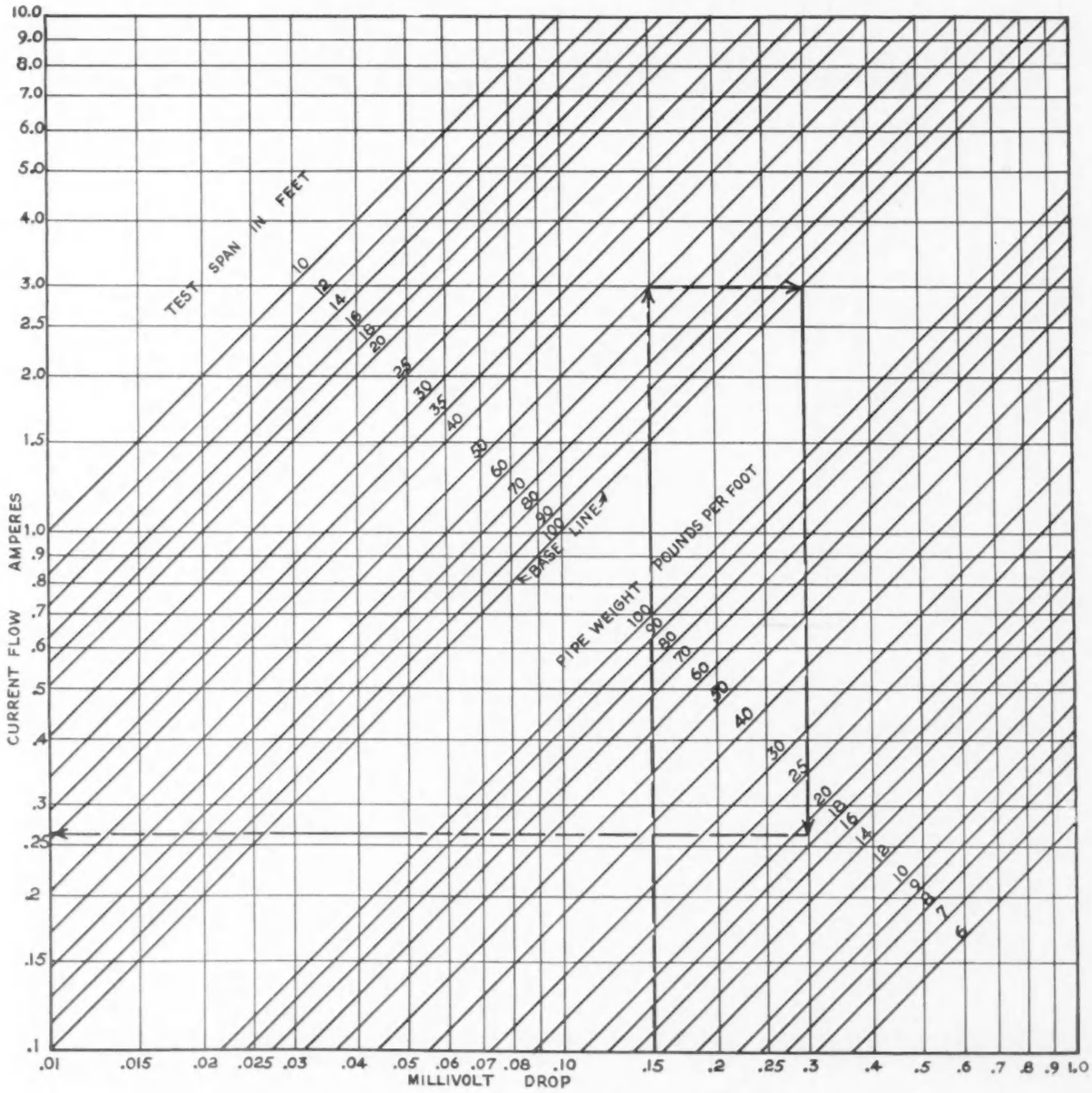
Line Current Calculation Chart



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EXAMPLE: .15 millivolt drop; 50-foot test span; 18.97-pound pipe weight (6-inch); .263 amperes.

Weight Per Foot Standard P. E. Pipe		Weight Per Foot Standard P. E. Pipe		Weight Per Foot Standard P. E. Pipe	
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1½-inch	2.72 pounds	5-inch	14.62 pounds	14-inch OD	54.57 pounds
2-inch	3.65 pounds	6-inch	18.97 pounds	16-inch OD	62.58 pounds
2½-inch	5.79 pounds	8-inch	24.70 pounds	18-inch OD	76.84 pounds
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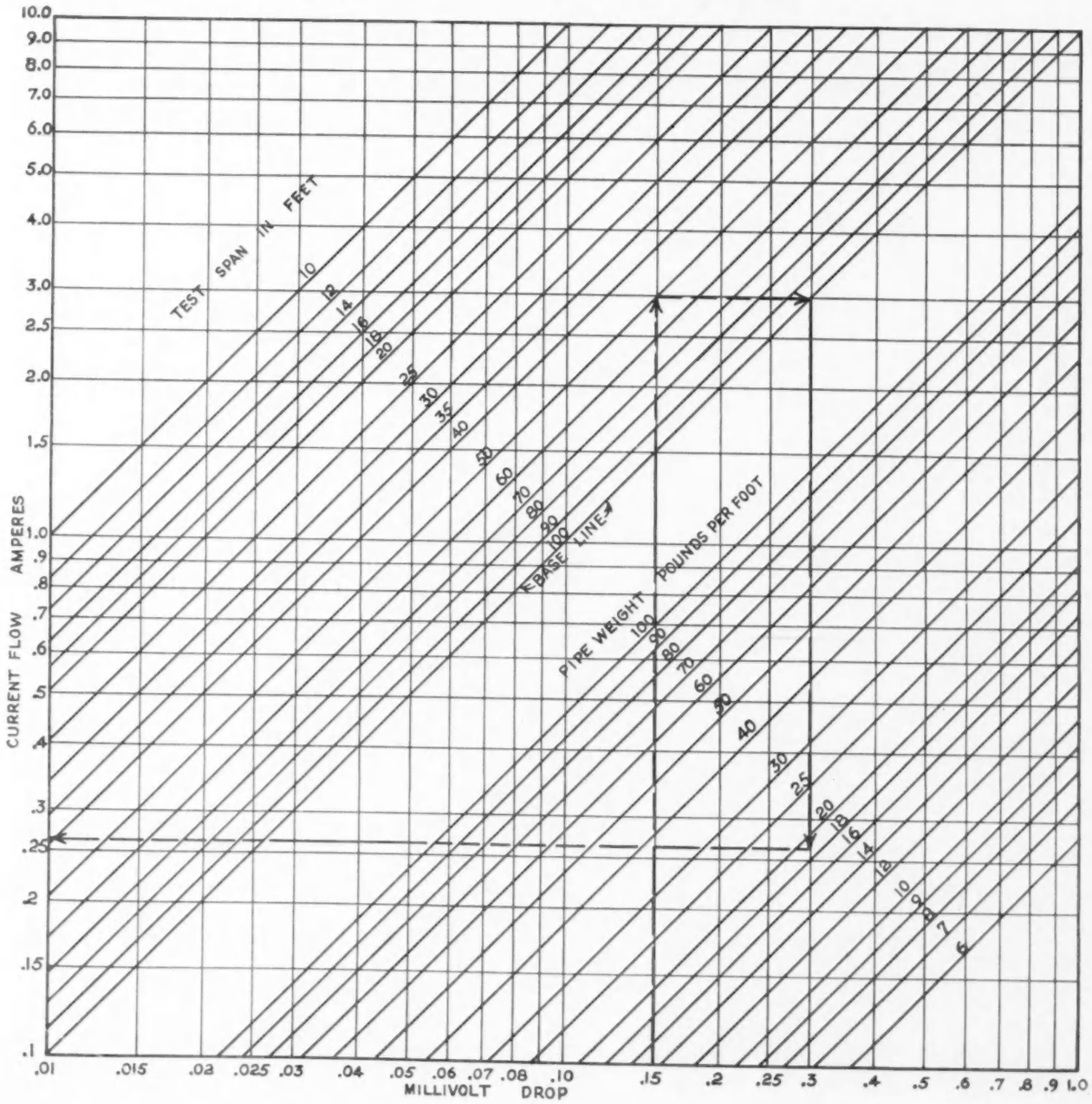

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Distillate Fields Bring New Production Phase

By BRAD MILLS, Associate Editor

SO-CALLED recycling plants, which were introduced following the discovery of a number of distillate or high-pressure wet-gas producing fields in Texas and Louisiana, have been accepted rapidly by the industry. Millions of dollars have been invested in these projects, which are considered an economic necessity in fields producing distillate if (1) gas wastage is to be avoided by returning unmarketable stripped residue back to the producing formation, and (2) if reservoir pressure is to be maintained so as to prevent retrograde condensation taking place and subsequent loss of recoverable contents. Since the plants provide a means of obtaining financial revenues through sale of rich wet fractions stripped from the distillate, and at the same time are a practical method of eliminating loss of both dry gas and liquids, it is not surprising that this new production practice has been adopted so swiftly.

There are several types of recycling plants, and it is the purpose of this article to discuss some of those operating on the absorption principles. Earlier installments have presented data on economic aspects of recycling and information on typical installations employing separation or refrigeration-separation processes.

Coastal Recycling Corporation

Completion early in 1940 of Coastal Recycling Corporation's plant in Agua Dulce, Texas, field marked an advancement in design, construction and size for recycling installations. Designed to handle up to 130 million feet of gas daily, the plant primarily employs the absorption principle for extracting distillate from the wet gas. Outstanding features of this plant, largest yet built, are a 1500-pound operating pressure in the absorption unit, a direct-fired fat-oil heater, induced-draft cooling tower, and generous spacing of equipment. The gas-gathering system operates at a pressure of 2000 pounds and dry gas is returned to the producing formation at about 2500 pounds. The higher pressures in all departments are a departure from the old low-pressure absorption theory so common to natural-gasoline manufacture.

Recycling

PART IV

AN INTERESTING development in the adaptation of the absorption method in recycling operations has been the remarkable increases found feasible in absorption pressures. Whereas a short time ago it was not considered desirable to attempt absorption at pressures greater than 800 to 900 pounds, modern recycling plants are operating at pressures up to 1500 pounds and tests indicate that absorption pressures in excess of 2000 pounds are practical. Typical absorption-type recycling plants are presented in this, the fourth article in our symposium discussion on recycling.

Operation of the absorbers at a pressure of 1500 pounds favorably affects the compressor power required for injecting the dry gas into the formation. This high absorption pressure eliminates two large compressors. The 1500-pound absorption pressure was established because of the inability of several producing wells to deliver gas at a higher pressure. Tests indicated that absorption pressures up to 2000 pounds were feasible in connection with recycling operations. Maintenance of a gathering-line pressure considerably above 2000 pounds is difficult, however, and is the chief obstacle in distillate fields producing from reasonable depths and a large number of wells.

Gas from the field comes to the plant through 8- and 10-inch orifice meter settings, each meter representing a district or group of wells and the arrangement being such that either group may be shut off from the plant. The pressure is reduced by regulators located near the main line junction. Temperature of the gas is reduced as much as possible by being passed through the atmospheric cooling sections installed in the base of the cooling tower. Gas from the well normally has a temperature above 100° F., the reduction in temperature varying some with weather conditions and the volume of wet gas handled daily. After leaving the cooling sections the gas is distributed to four absorbers through indicating dial-type orifice meters on the absorber outlet gas line. Dry gas from the absorbers passes immediately to the compressors through two 10-inch orifice meter installations.

Each of the four absorbers contains 20 bubble-cap plates and a scrubber, the arrangement being located in the upper section and arranged to reduce mist formation. This scrubber section prevents carrying over of liquids from the absorber, and the chamber acts to protect the compressors. This chamber will operate to shut off fuel to the compressors when the liquid level becomes too high in the absorber, the functioning medium being an internal float. The absorbers are made of high-tensile-strength steel, and were X-rayed in accordance with A.P.I.-A.S.M.E. code.

After leaving the base of the absorbers the fat oil passes through three stages of weathering. Flow from the absorbers is controlled by internal floats. Reductions in pressure in these controlled weathering

THEY say an artist is a workman who does things better. On that basis the men in Youngstown's pipe mills are artists and the making of pipe is an art. You would readily agree if you could see these workmen, many of whom have been making oil country pipe, for more than 30 years. Their pride is to be certain that every length bearing the Youngstown name is as perfect as human skill and craftsmanship can make it.

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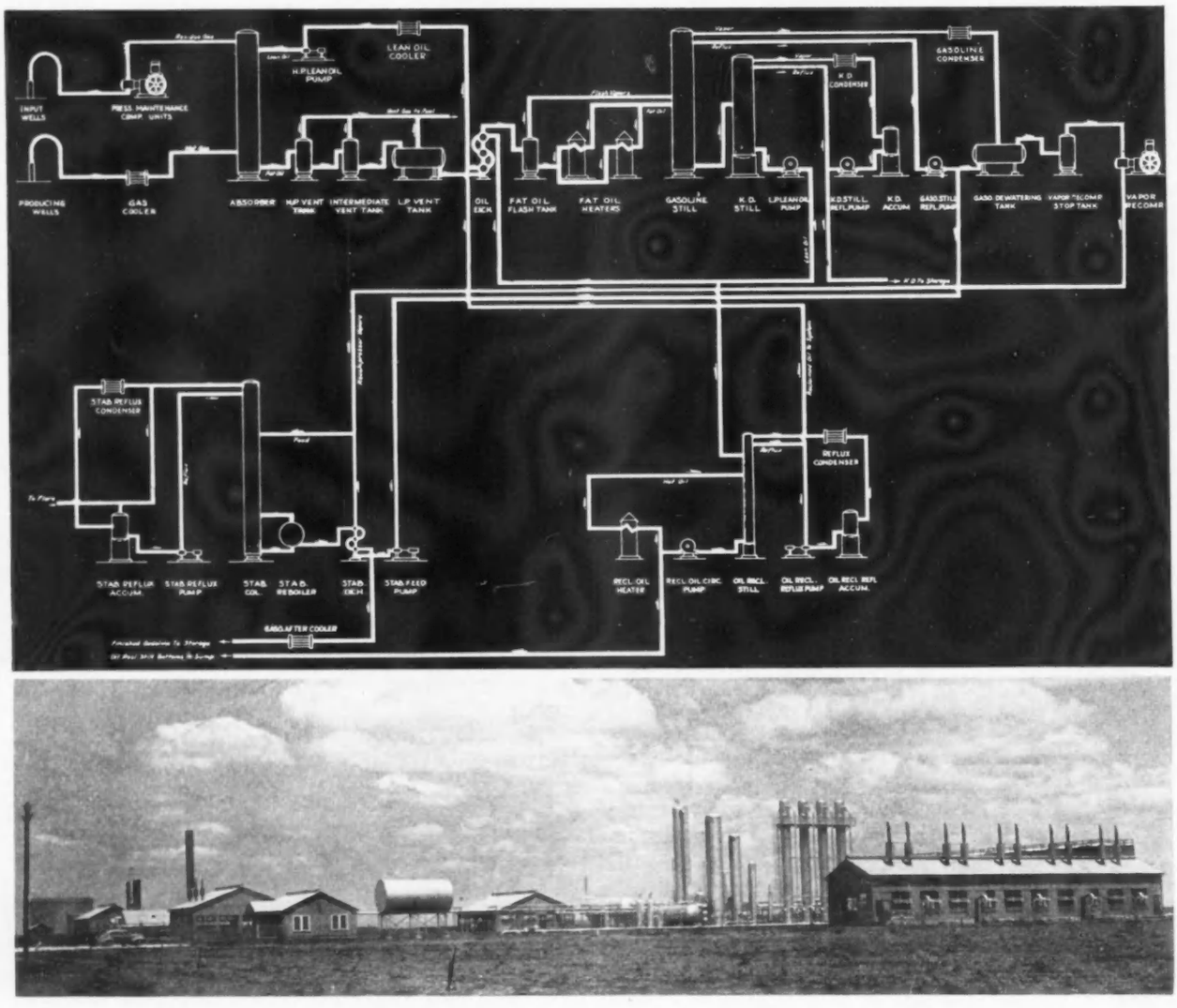
Coastal Recycling Corporation

Agua Dulce Field, Texas, Recycling Plant



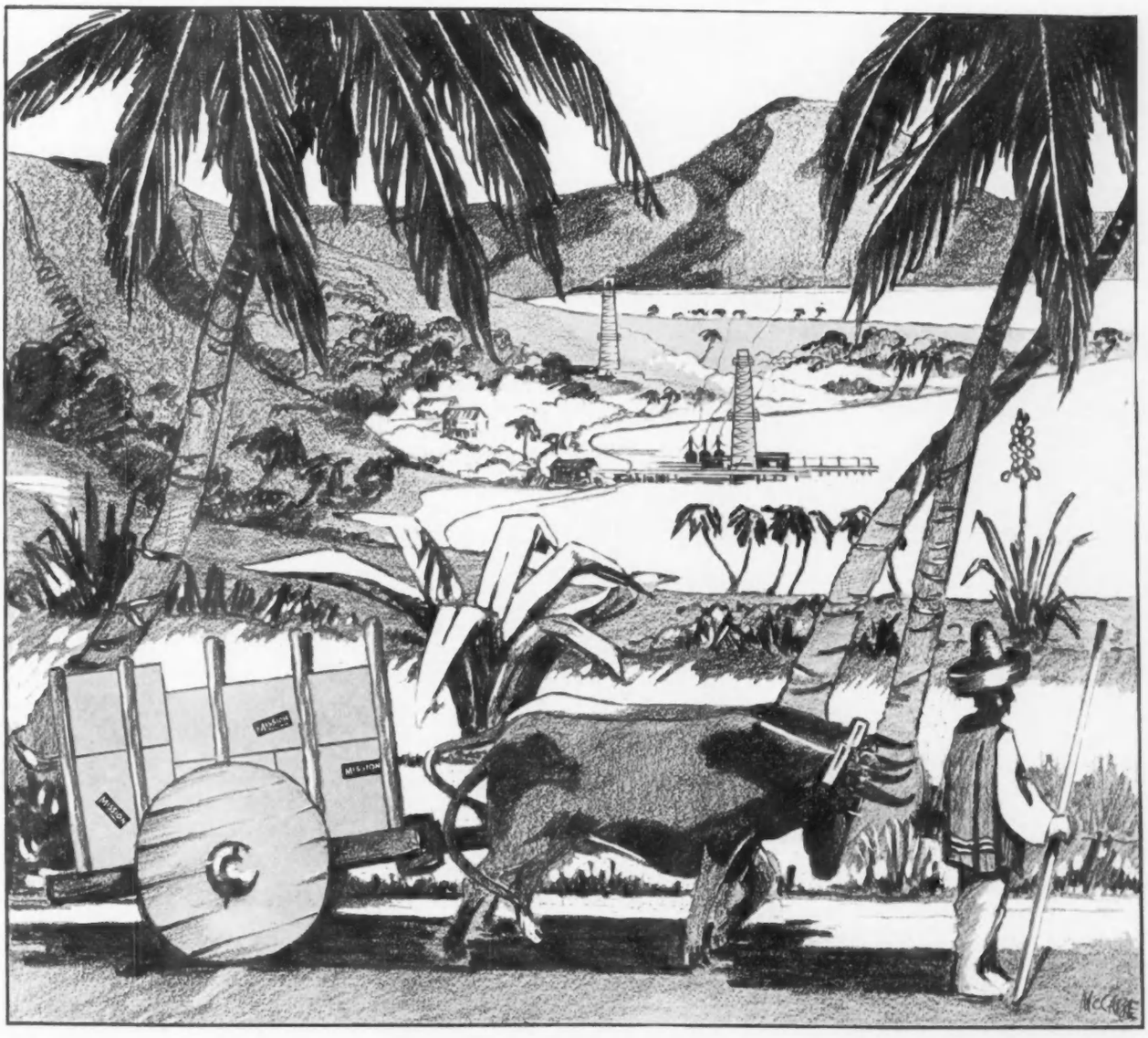
This general view gives some idea of the size of the Coastal recycling plant

stages sharply reduce the overhead loss in gas. The fat oil then passes through the heat exchangers and into the fat-oil flash separator, where vapors separated by the initial heating in the exchanger are removed from the liquid and taken direct to the high-pressure gasoline still to avoid passing them through the oil heaters.

Fat oil from the separator is distributed to two direct-fired oil heaters, where the temperature is raised to about 550° F. and controlled by temperature controllers regulating the volume of fuel gas to each heater. Economic recovery of kerosene is possible because of this high temperature, which could not be attained with steam at reasonable pressures. At full capacity the fat oil is split into two equal streams, one going to each heater. The oil reaches the convection banks at a temperature of 300° F. and is heated in these tubes to 380-415° F. The final temperature of 510-550° F. is developed by flow through the floor tubes. No trace of cracking of the absorption oil has developed, and it is believed that because of an efficient design the maximum localized temperature of the oil does not exceed the average oil temperature by more than 25° F.

The fat oil enters the high-pressure still and is fractionated in combination with the gases from the fat-oil flash separator. This gives an overhead gasoline product and a bottom product of distillate and absorption oil. The gasoline end point is controlled by the amount of gasoline reflux over the top of the still, while the initial boiling point of the distillate or kerosene is controlled in the still by the quantity of agitation steam used as a stripping medium.

The high-pressure still oil bot-



In Every Oil Country

THE HIGHEST TESTIMONY that is paid Mission "Rolling Dog" Slips is their outstanding preference all over the world. Wherever there is oil you will find Mission Slips handling pipe quickly, safely and economically.

Instant release of the pipe is assured. The dogs roll away from the pipe as it is lifted, releasing the pipe even when the slips are stuck in the bowl. Round trips are made quickly — smoothly — because delay in releasing stuck slips is eliminated.

Pipe is protected from excessive tooth marking by small, non-continuous slip teeth. Ample gripping over of Mission Slips prevents bottlenecking even under extreme loads. Your string is *safe* when it is supported with Mission "Rolling Dog" Slips.

Your Mission "Rolling Dog" Slips handle pipe faster — safer. Use them for drill pipe, casing, tubing, and be assured of maximum safety and economy.

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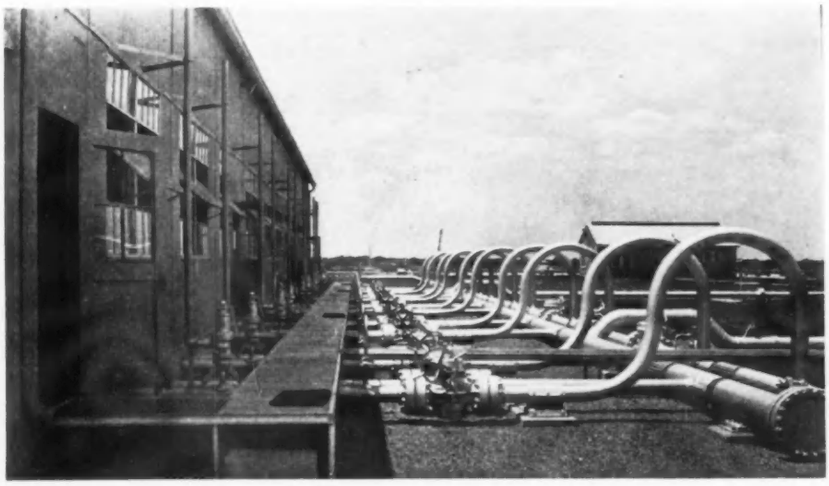
toms, stripped of gasoline, are flashed into the atmospheric still for removal of a distillate or kerosene cut. The quality and quantity of overhead recovery from this tower depends on the amount of agitation steam and reflux used, or nature of the combination of both used. Bottoms from the atmospheric still pass to the hot oil pump, the discharge from this pump being through the oil exchangers to the absorption-oil coolers in the bottom of the cooling tower. The lean oil is sent from this point to the absorbers by the high-pressure pumps. These three pumps are motor-driven units taking suction at 20 pounds and discharging at absorber pressure. An electric-driven centrifugal pump delivers the oil to the coolers and exchangers.

A small still is used for conditioning or purifying the absorption oil. A small side stream of hot oil is diverted from the discharge of the hot lean-oil pump to this still, circulation being maintained by pumping through a small direct-fired oil heater. This results in fractionation in the conditioning still, the overhead product being condensed and returned to the absorption-oil circuit before the oil enters the lean-oil coolers in the cooling tower. In this manner the lean oil may be cleaned for end point and weight. Heavy ends and decomposed products recovered are burned.

Gasoline from the primary still is condensed in the atmospheric sections in the cooling tower, sent to an accumulator and passed to the stabilizer column. The accumulator acts as a dewatering tank and separator for stubborn vapors from the high-pressure still. Water is discharged automatically and the uncondensed vapors are handled for compression and final injection into the stabilizer. Finished gasoline passes from the reboiler through an exchanger and cooler to storage.

The cooling tower is 192 feet long, 25 feet wide and 40 feet high. It is an induced-draft type, built for cooling the water in the upper section. The lower section of the tower provides a collecting basin for redistribution of the cooling water over the atmospheric cooling sections placed in the base of the tower. Redistribution of water to each cooling section is regulated by valves. The tower is equipped on top with seven 11½-foot fans, each driven by a 25-horsepower motor. Maximum water circulation over the tower is 8000 gallons per minute. Atmospheric-cooling sections in the base of the tower condense and cool all products, and to cool the engine-jacket water and lean absorption oil. In normal summer weather there is a period during the night when the wind dies completely. The cooling performance of induced-draft type towers is especially good during such periods.

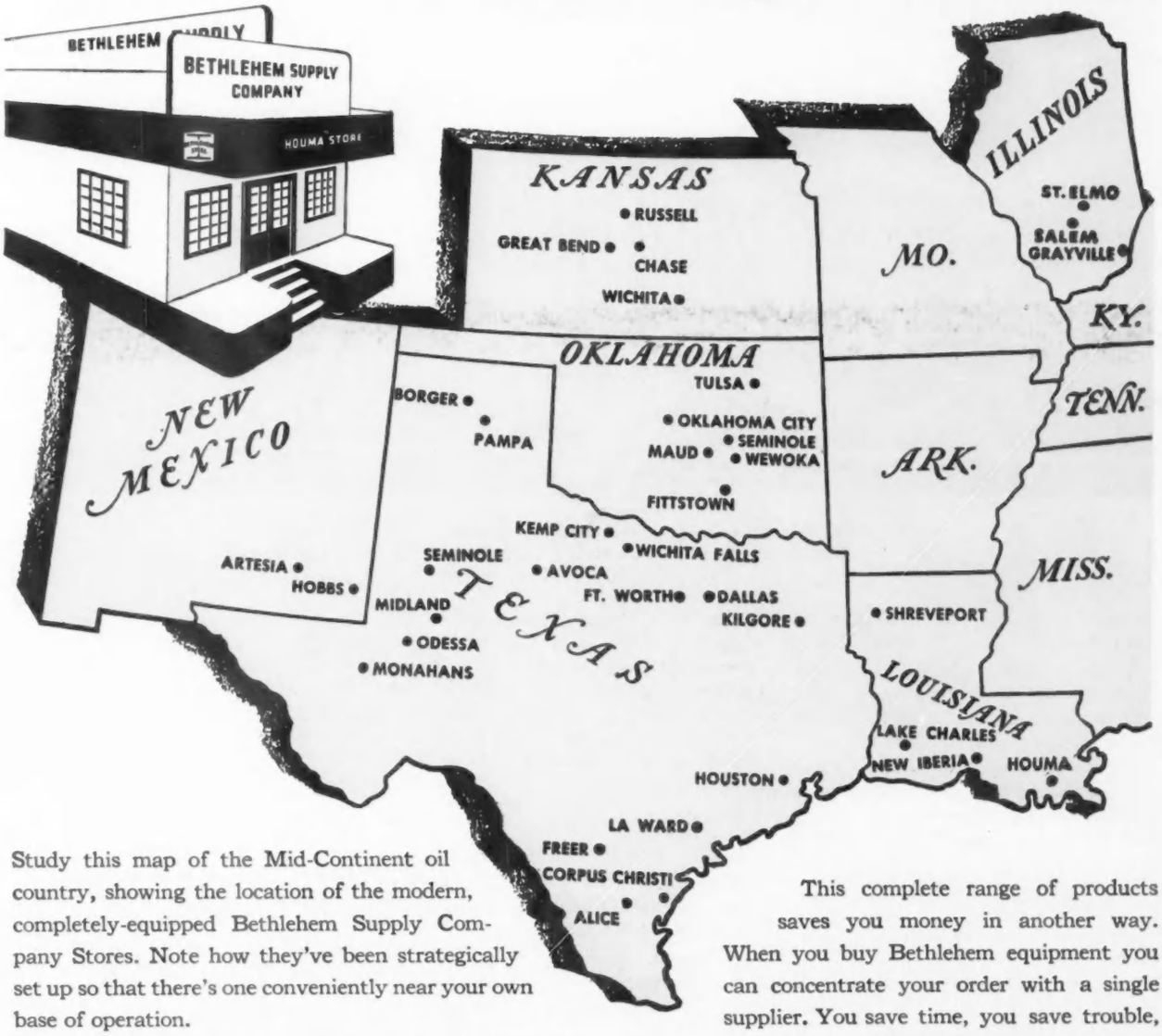
Liberal use of electric power around the plant and use of direct-fired preheaters have reduced steam requirements. This has worked to advantage because of the poor quality of water available. The electric generating plant consists of three 400-horsepower 4-cycle gas engines, each driving a 250-kw., 440-volt, 60-cycle generator with direct-connected exciter. The plant may be operated



The neat appearance of the discharge manifold, shown above, is typical of the entire plant.

These five 800-horsepower units can handle 130,000,000 cubic feet of gas daily

Your Bethlehem store will save you money



Study this map of the Mid-Continent oil country, showing the location of the modern, completely-equipped Bethlehem Supply Company Stores. Note how they've been strategically set up so that there's one conveniently near your own base of operation.

Visit your Bethlehem store soon and make it your headquarters for oil field equipment.

When you've inspected the complete Bethlehem stock of drilling, pumping, piping and refining accessories, you'll realize that each item is designed to save you money four ways: in initial cost, installation, operation and upkeep.

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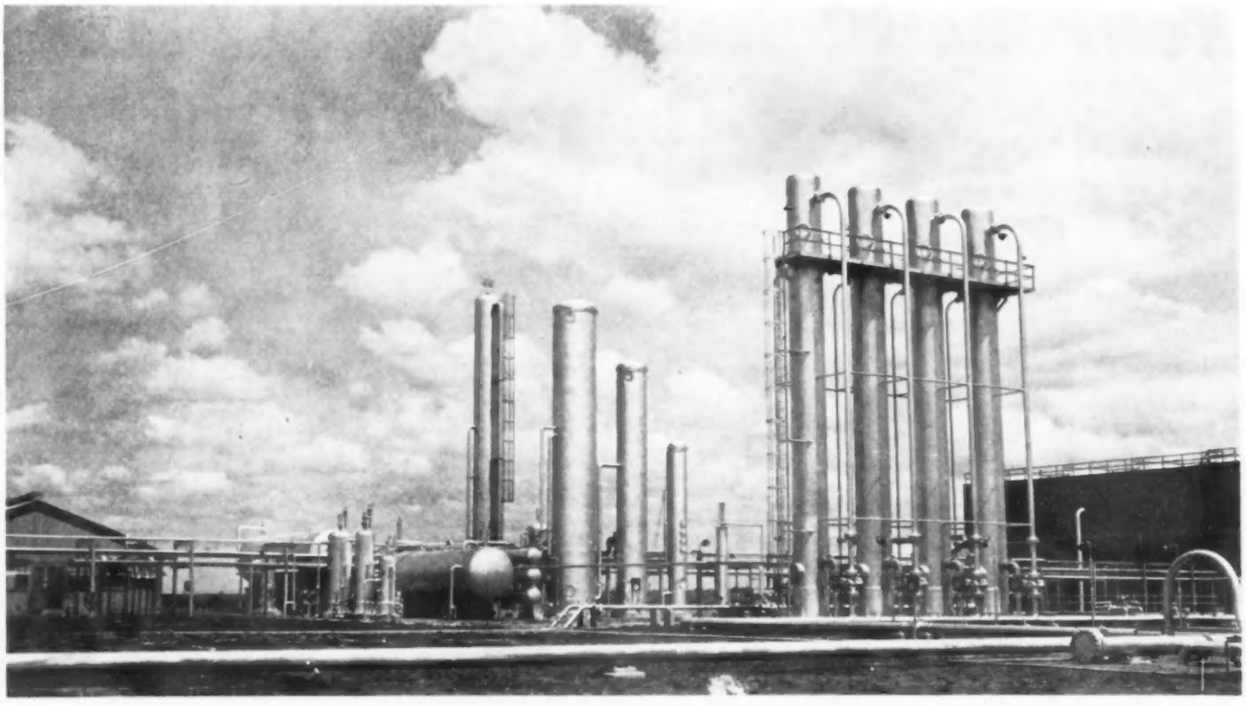


The plant is compactly designed, but no crowding is in evidence. Each of the 1500-pound absorbers can handle up to 32 million feet of gas daily.

in two units, if it is necessary to shut one down.

Four 125-horsepower, 250-pound oil-field type boilers are used, with one acting as a standby. Water requires constant treatment.

Water is supplied to the plant by a gravel-packed well that was drilled to 600 feet. A deep-well electric centrifugal pump is used. Another water well is available as a standby supply, gas lift being provided as a precaution.

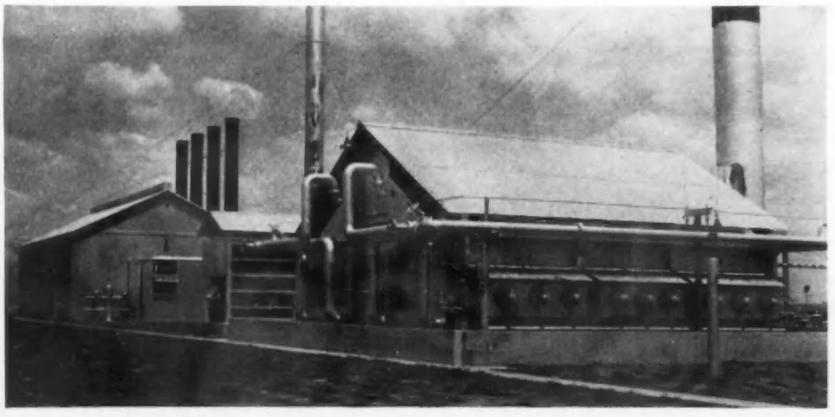
The main compressor plant consists of five 800-horsepower, right-angle, 2-cycle, gas-engine-driven units. Four compressors are each equipped with four 4⅛-inch double-acting compressor cylinders, and one is equipped with three double-acting compressor cylinders of the same type and a single double-acting recompressor cylinder. The engine end of the compressors each consists of eight vertical cylinders, while the compressor cylinders and scavenging cylinders are horizontal. Bearings are lubricated under pressure, and the same oil is used for cooling and lubrication.

The larger motors used are of the constant-speed, squirrel-cage induction type operating on 440-volt, 3-phase, 60-cycle current. Both open-frame and explosion-proof motors are used to meet conditions. Three 100-horsepower, 1750 r.p.m. explosion-proof motors drive the high-pressure lean oil pumps; and two 15-horsepower, 3550 r.p.m. motors of the same type operate the oil-reclaiming pumps. The principal open motors are two 75-horsepower, 1750 r.p.m. units driving the water-jacket pumps; and two 60-horsepower, 1160 r.p.m. units driving the cooling tower pumps.

Steam pumps are used for charging the stabilizer, reflux work, and general utility movement of condensate.

Safety controls are provided generously on all major operations. The absorbers are equipped with liquid-level controllers from shutting down the compressors when the liquid level becomes dangerously high in the absorbers. The low-pressure vent tank, high-pressure vent tank, kerosene distillate still, kerosene distillate accumulator, stabilizer column, stabilizer reflux accumulator, and reclaiming oil accumulator are also equipped with liquid-level controllers.

All gas coming into and high-



Direct-fired fat oil preheaters have been effective in raising the temperature of the oil to above 550° F., a practice that facilitates distillation of kerosene fractions.

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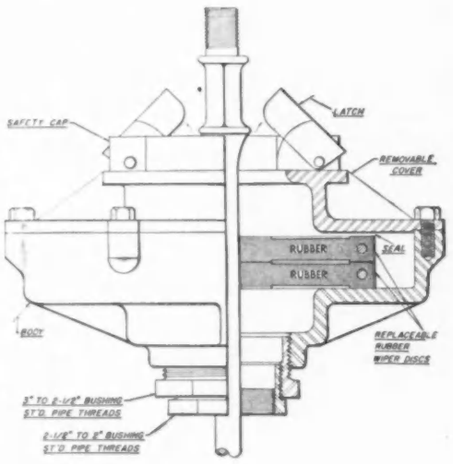
Fits all sizes of Rods and Couplings



UNIVERSAL TYPE

Here is a more compact Wiper for effectively cleaning your rods and couplings. Two tough resilient rubber discs are enclosed in a steel housing. These are made of the same durable rubber as used in Patterson-Ballagh Pipe & Casing Protectors. The discs float freely but form a seal so that the oil cannot emerge. Excess oil drains back into the well. Safety latch catches the rods if accidentally dropped.

The device is universal in its fittings. 2", 2½" and 3" A.P.I. line pipe bushings are included. Rods from ⅝" to 1¼" all on the same string are effectively stripped. Ask for new Bulletin.

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For drilling, the greatest economy is added by use of these internationally-preferred Protectors. Made of the toughest rubber compounded by our exclusive process. Over 94% of all deep wells drilling during the past 5 years have been protected with P-B Protectors. See Composite Catalog.

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pressure gas leaving the plant may be cut off at the plant boundary, high-pressure gas lines and vessels in the plant dumped to the flare line, compressors shut down, fuel to the oil heater shut off, and steam released into furnaces, by use of the emergency shut-down system. This action is possible by use of remote-controlled lubricated plug cocks operated by power cylinders and diaphragm valves.

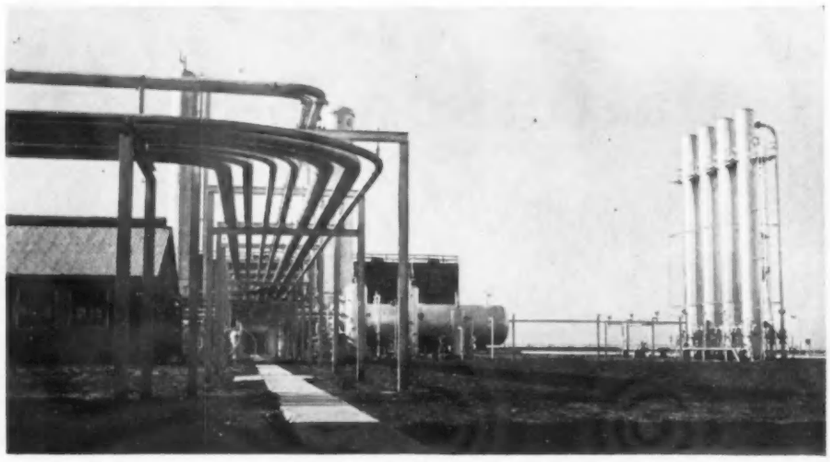
Automatic pressure, temperature and flow recorders and controllers are placed at strategic operating points around the plant.

Steel-frame buildings are used, with galvanized-iron construction. The compressor building is largest, being 140 x 24 x 16 feet. The laboratory and office building is 42 x 26 x 12 feet.

This plant is a model of cleanliness and tidiness. All floors are varnished and waxed, even to the compressor building, and all operators take pride in advancing plant appearance.

The field gathering system consists of a 10-inch main for the south end of the field, and a 6- and 8-inch main for the north end. The larger main is 2 miles long and the smaller combination about 5 miles long. Well lines are 3-, 4- and 6-inch laterals. The gathering system was designed for an operating pressure of 1500 to 2000 pounds, but was tested hydrostatically to 3500 pounds. The gathering system will handle 150 million feet of gas daily. About 25 producing wells are constantly on the line, and additional wells are being drilled.

Orifice meters are used at each well. Each meter setting is equipped with seal pots filled with ethylene glycol, providing adequate dehydration to keep hydrates from the piping and meter.



The several curved lines carry various products to and from heating elements, steam lines included.

The injection system consists of 6-, 8- and 10-inch mains. Six input wells have been used, one well being located more than 5 miles from the plant. The input system was tested hydrostatically at a pressure of 4500 pounds. Orifice meters are used at each injection well, and check valves have been installed to prevent release of gas from the wells for any reason.

Principal plant products are piped 25 miles to Corpus Christi. A duplex piston pump, driven by a 75-horsepower electric motor, is used. The pump is connected to the gasoline, kerosene and water storage, the arrangement making it possible to pump various products through one line by introducing a small amount of water between each batch.

Depth of the producing wells range from 4600 to 6950 feet, and the formation pressure varies from 1900 to 3400 pounds. Two casing strings, 5- and 7-inch, have been run in each well, and the flow is normally through 2- or 2½-inch tubing. Positive type chokes are used at the surface.

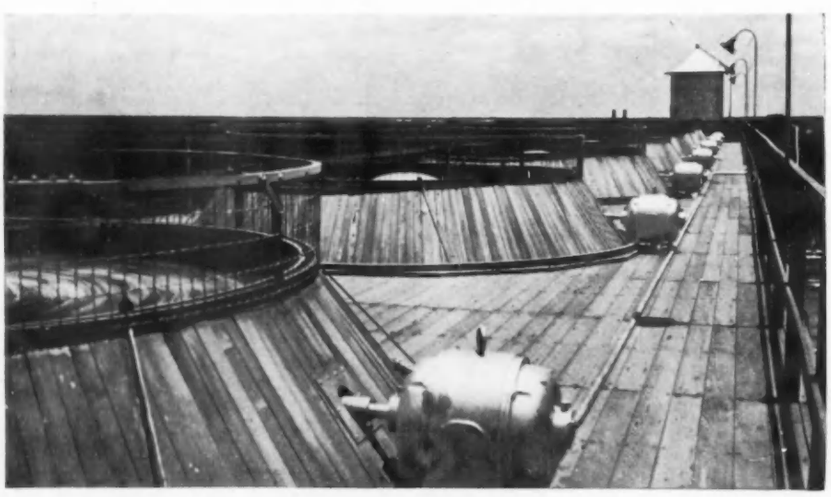
Dry gas is injected through six wells, the input pressures being only slightly higher than the formation pressure.

Hunt Oil Company

Hunt Oil Company recently has placed in operation a high-pressure absorption type recycling plant in the Long Lake field. The plant embodies a number of improvements in design, both to increase the recovery of distillate and to assure operating flexibility and safety. The plant can be operated for high butane recovery and the specifications of the final products, light and heavy distillate, can be varied through wide ranges. The capacity of the plant is about 40-50 million feet per 24 hours, depending upon pressure conditions.

Gas flows from the producing wells at about 1800 pounds pressure and is reduced at the plant through regulators to about 1400 pounds, the absorber operating pressure. The dry gas passes from the absorbers, through scrubbers, and into the compressors where the pressure is increased to 2150 pounds for reinjection into the producing sand.

Fat oil from the absorbers is reduced in pressure in two stages



These 138-inch fans, each driven by a 25-horsepower electric motor, are used at the top of the cooling tower.

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POSITIVE CLOSURE
LEAK-PROOF SEAL

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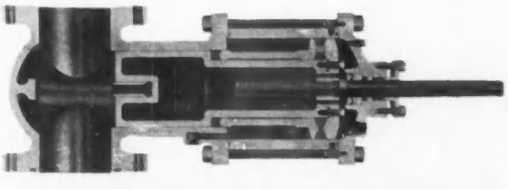
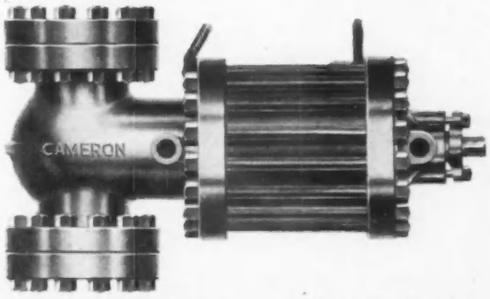


When fluid pressure is applied to closing side of ram-gate operating piston, ram-gate moves swiftly across horizontal bore and seals instantly on the single seat formed integrally with self-cleaning gate cavity.



Exterior view of Cameron Pressure Operated Gate Valve. Note closing and opening ports which require a very simple manifold. Control is by means of a 4-way control valve. Operation is instantaneous and exceedingly positive.

With a Cameron Type SDA Pressure Operated Blowout Preventer on your well, you enjoy the protection of the world's fastest, most positive and dependable unit for sealing the annular space.

But even an "SDA" preventer can seal only the annular space. There remains an equally vital opening to be controlled in event of a vicious well blow . . . the flowline outlet.

At this point, *only* a Cameron Pressure Operated Flow-line Gate Valve can match your Type SDA Preventer in speed, positive closure and leak-proof seal.

In the cross-section view at left, note that a single seat is built into the self-cleaning gate cavity. When closing pressure is applied, the massive ram gate with its *self-feeding* packing moves against the seat and effects an instant closure. Regardless of how rough or corroded the seat may have become, the resilient self-feeding packing element automatically compensates for all inequalities and insures a positive seal.

The cost of a Cameron Pressure Operated Flow-line Gate Valve is negligible, considering the vitally important service it renders. To operators who feel that their rigs deserve the utmost protection against blowout destruction, full and complete details of the Cameron Pressure Operated Gate Valve will gladly be forwarded without obligation.

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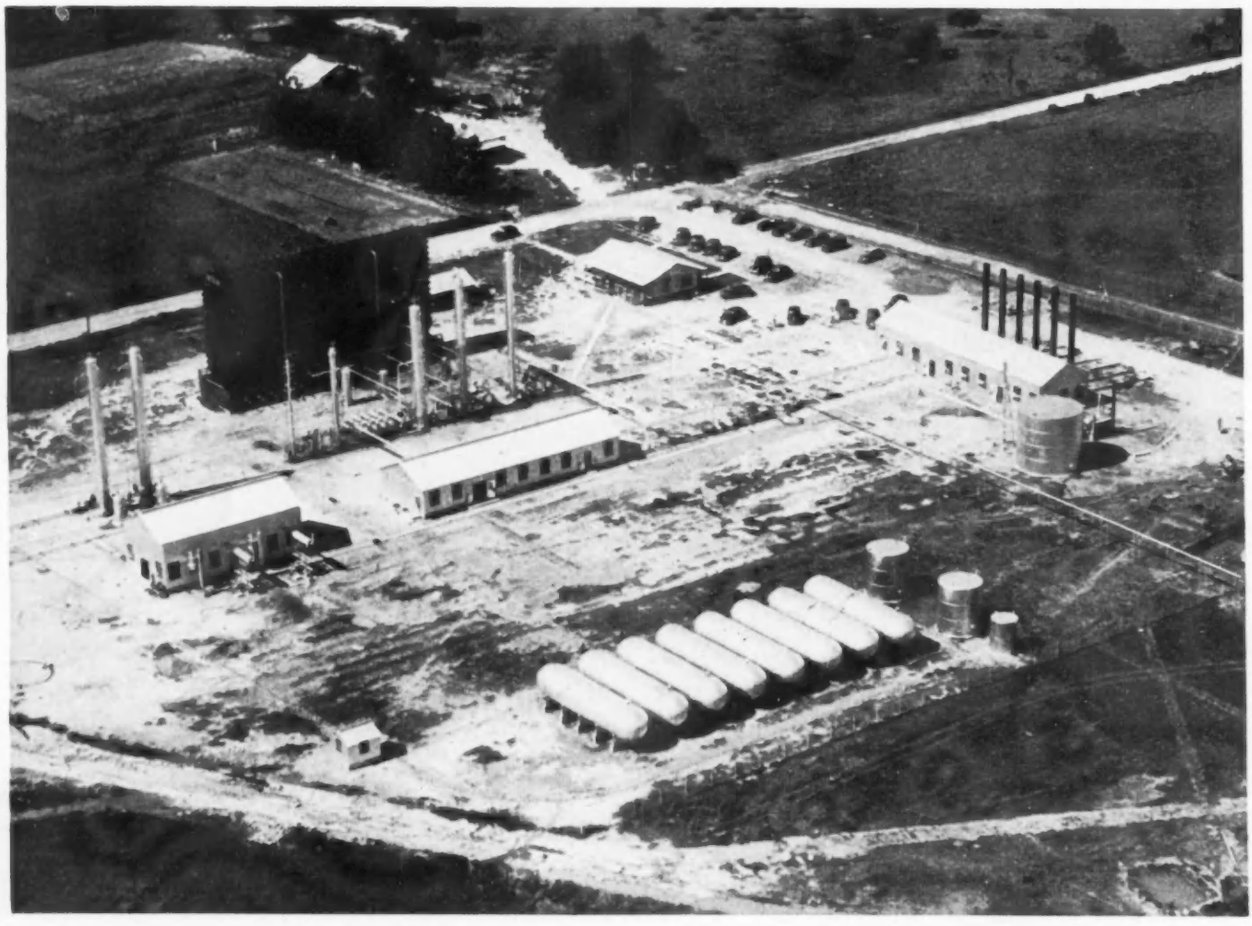
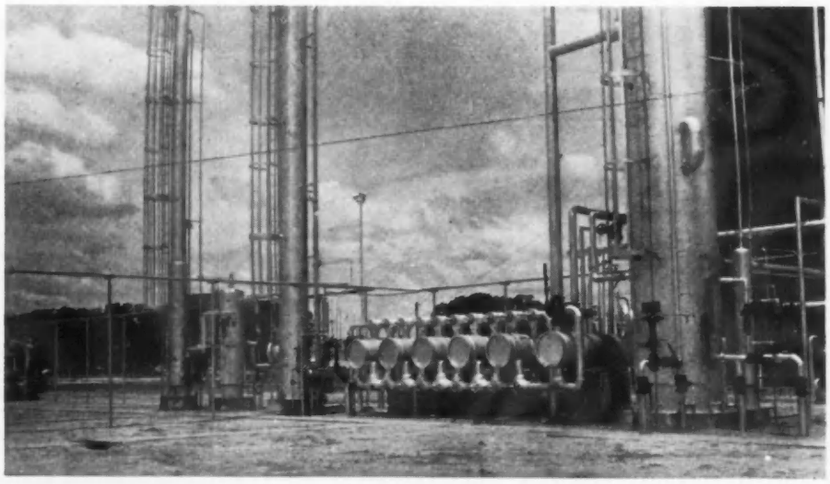
Hunt Oil Company

Long Lake Field, Texas, Recycling Plant

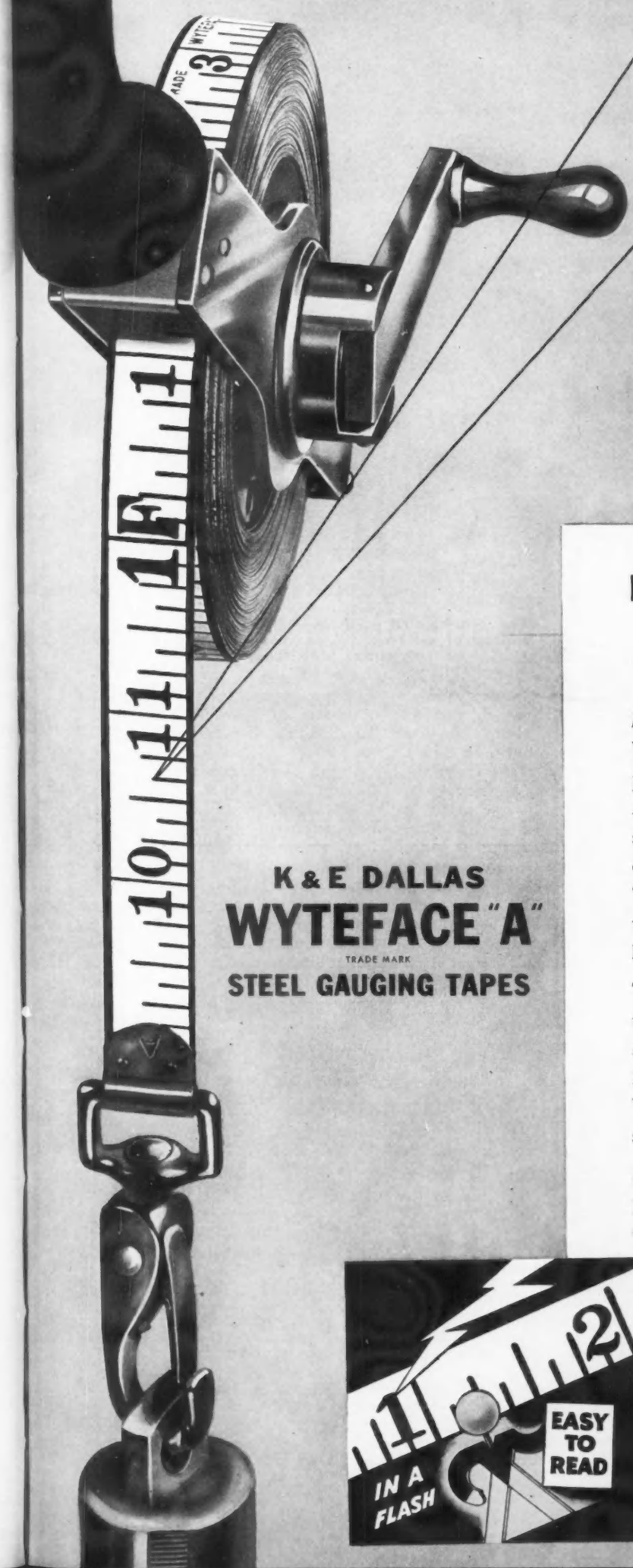


This aerial view shows storage in the foreground, absorbers and compressors at left, distillation unit and cooling tower in center, with boiler plant to the right.

to about 125 pounds and the flashed gases are treated in a high-pressure and low-pressure reabsorber. The oil at 125 pounds mixed with the fat oils from the two reabsorbers enters oil-to-oil heat exchangers where the temperature is raised by exchanging the heat from the lean oil returning to the absorbers. After preheating, the fat oil goes to the primary still and rectifier. The overhead goes to the primary-still condensers and then to the primary-still accumulator. Part of the make is used for primary-still reflux and the remainder is passed to the stabilizer feed tank. Bottoms off the primary still go to the secondary still. The overhead from the secondary still is the kerosene distillate. The bottom off this still



The heat-exchange arrangement at Hunt's plant.



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Black-on-White Markings

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In a flash—you get your reading on a Dallas Wyteface "A". Even in poor light, this improved, steel gauging tape is easy to read. And its *raised* black metal graduations stand up under hard service—in gauging crude; in resisting wear against the hatch. The sandy residues and constant wiping, which shorten the life of an ordinary line, hold little threat for a Dallas Wyteface "A".

The crack-proof white surface is bonded to the steel—protects it from rust and corrosion. Crude oil gives you a well-defined level mark against this white surface. Dallas Wyteface "A" is both a convenience and a safeguard against error.

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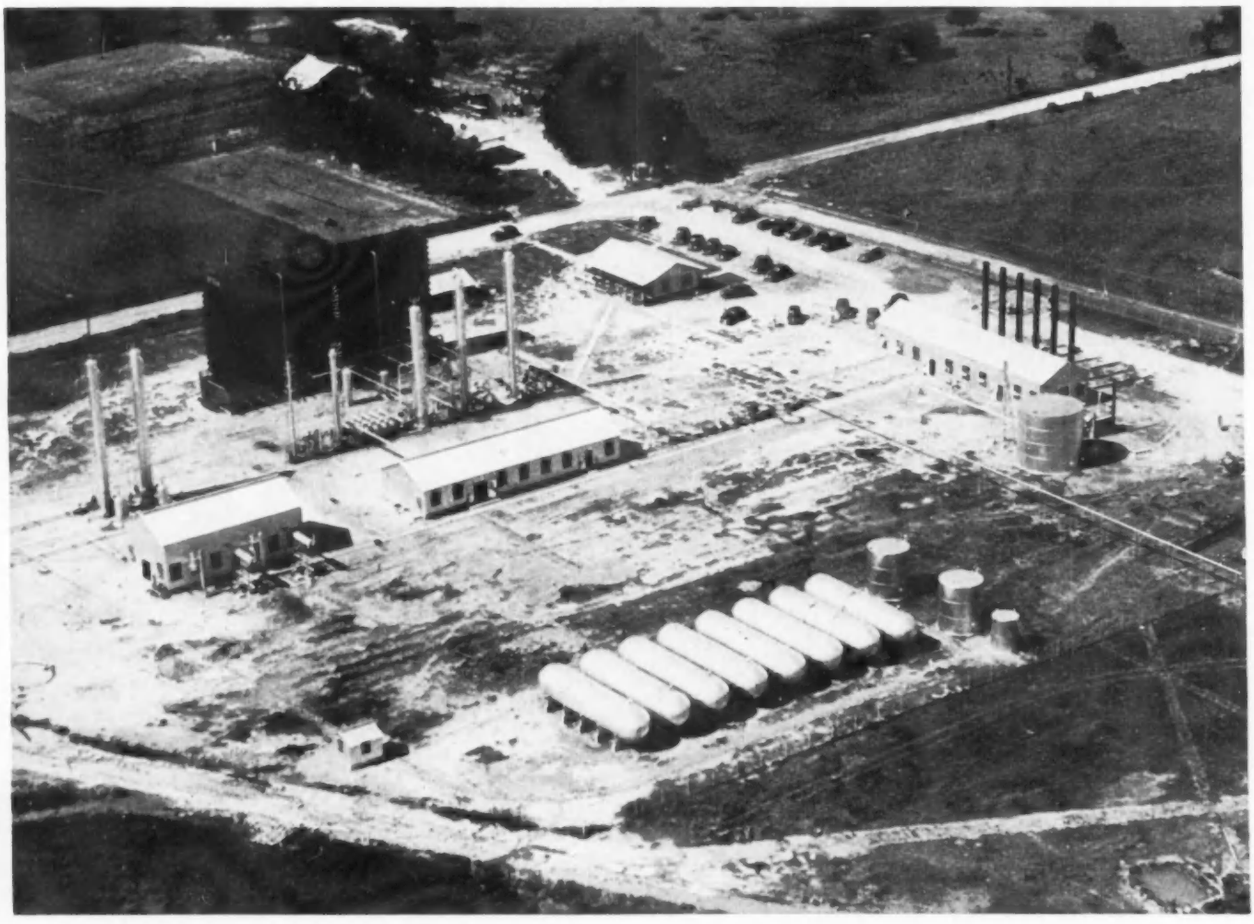
Hunt Oil Company

Long Lake Field, Texas, Recycling Plant



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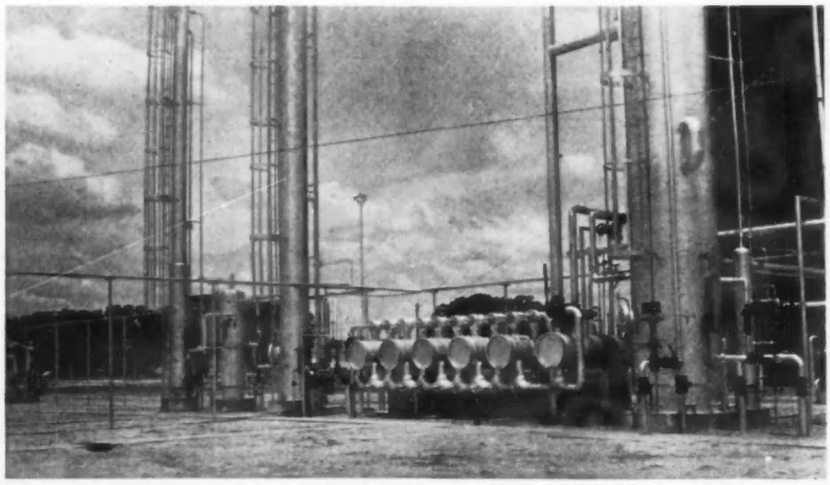

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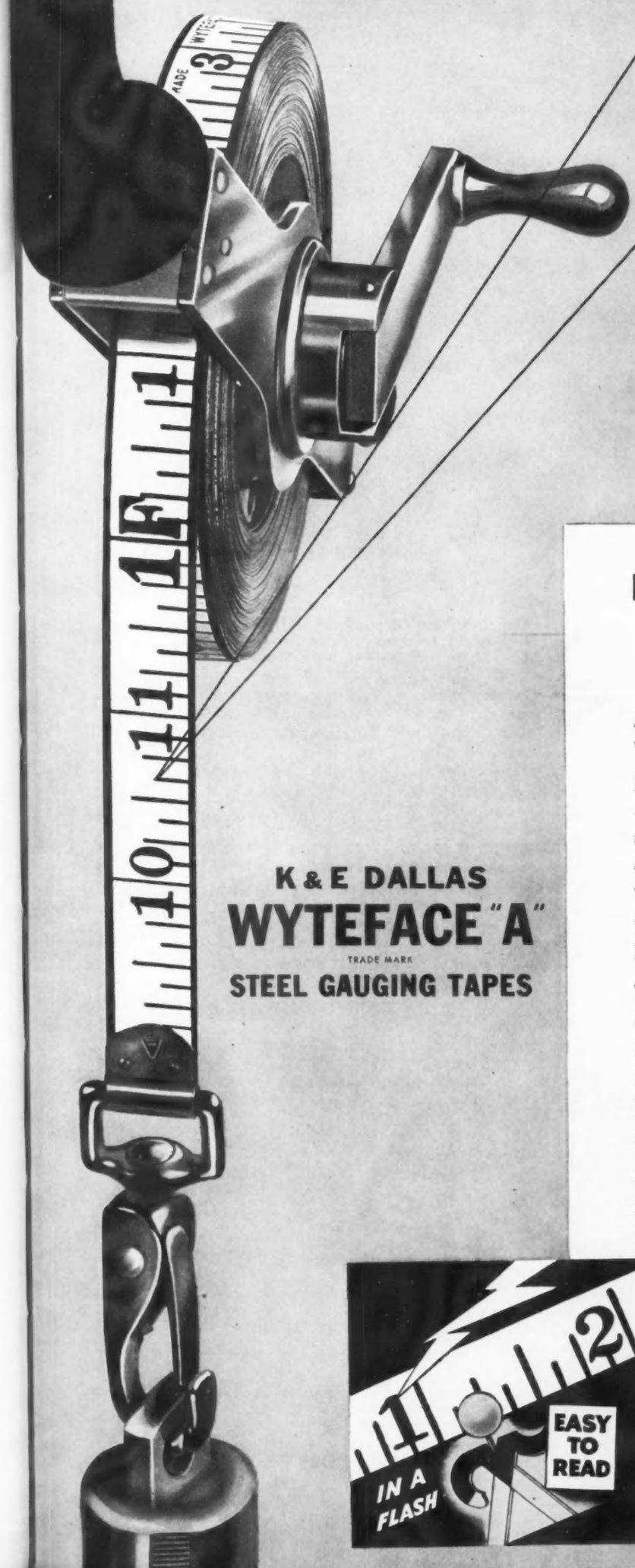

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EASY TO READ
RESIST ABRASION

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K & E DALLAS
WYTEFACE "A"
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STEEL GAUGING TAPES

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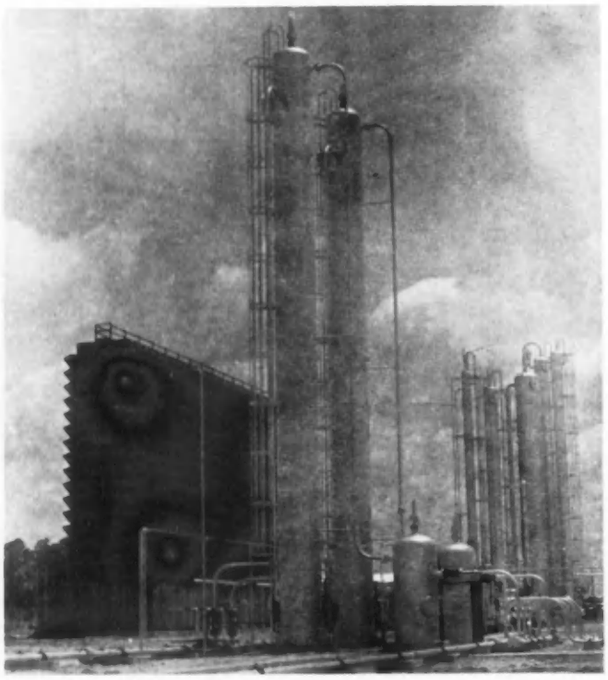
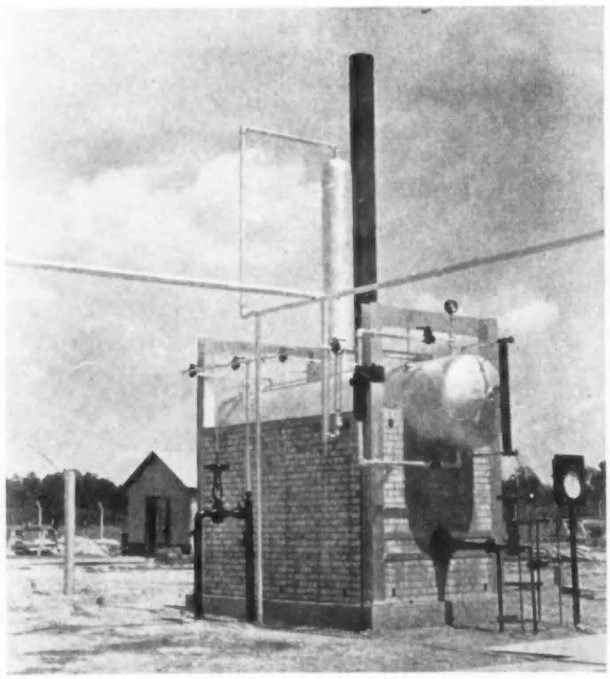


The two absorbers and scrubbers are in the foreground; the still, rectifier and stabilizer in the background.



The absorption oil purifying still, shown here, takes a small amount of oil from the main stream, conditions it and returns it to the system.

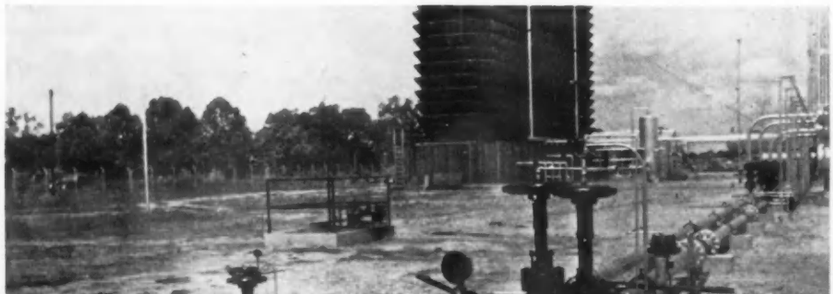
is lean oil and it is passed to the lean-oil surge tank. The lean oil is picked up by a centrifugal pump through heat exchangers, and goes to the suction of the high-pressure lean-oil pumps. It then goes to the absorbers to complete the circuit. The unstabilized product is stabilized to meet market requirements.

An important feature of the plant is the means provided for instant shutdown in case of emergency. By the turn of a handle at ony one of three control stations in the plant a valve on the inlet gas line may be closed, a valve in a gas pressure release line opened, the boiler fires extinguished, and the compressors shut down. All these things are done simultaneously and within a few seconds the plant is shut down and the gas pressure released at a point outside the plant boundary. Two 650-horsepower compressors are used, each with two 5⅛ x 15 compressor cylinders. Each unit is capable of handling 21½ million feet of gas daily from a 1350-pound suction to 2150-pound discharge.

All mechanical equipment is provided with a spare, with the exception of the main compressors. Six 125-horsepower oil-field type boilers are used, 5 being on the line and one held in reserve. The high-pressure lean-oil pumps are 3¼ x 12, steam-driven, duplex plunger type, driven by 9 x 12 steam engines. Circulating water pumps are 8-inch, single-stage, centrifugal type, driven by a steam turbine. The fat-oil pump is a 2-inch, single-stage, centrifugal type, also driven by a steam turbine. Two pumps of the same type are used for handling primary still reflux, one regularly and one as a spare. Reciprocating pumps are used for secondary still reflux, stabilizer feed, stabilizer reflux, boiler-feed and transfer purposes. The plant generator is turbine driven, with a gas-engine-driven spare.

The company recently completed a unique field gathering system for handling high-pressure gas from and to wells. The main lines are of 5- and 6-inch construction, with 3- and 4-inch lines to and from wells. This system is of all-welded construction and was tested to 3000 pounds. Ten producing wells have been completed and two input wells are available.

The plant was designed and constructed for Hunt Oil Company by Hudson Engineering Corporation of Houston.



During a plant emergency, the regulator on the main incoming line, at right, shuts off the gas supply, while the regulator at left on the smaller line opens and releases the plant pressure.

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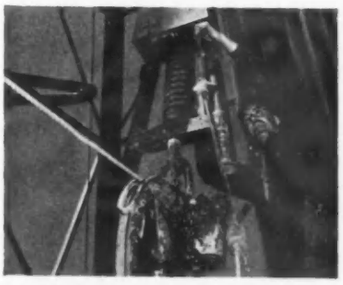

PENETRATION *– Balanced powder charges give the correctly designed alloy steel bullets maximum penetrating power. Test sections of casing prove that Lane-Wells bullets penetrate easily far more solid steel and cement than is encountered in a well.*

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TECHNICAL OILFIELD SERVICES

Everywhere

Welding 24-Inch Natural Gas Line Sets Precedent

By FRANK B. TAYLOR, Staff Writer

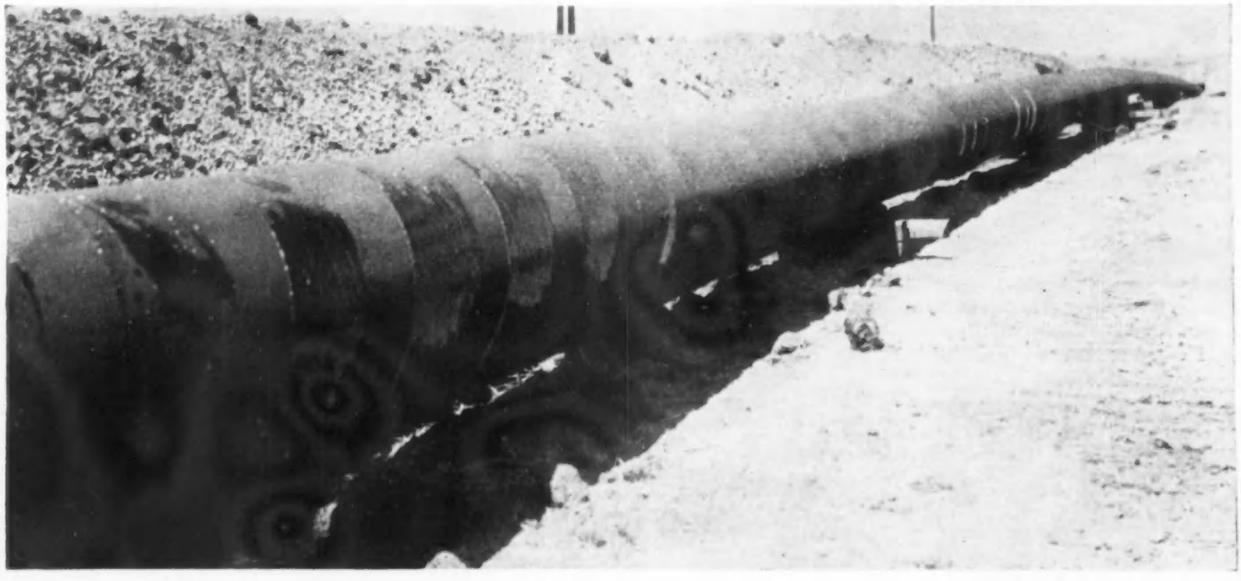
A NEW note in pipe line construction has been marked by Northern Natural Gas Company in Ellsworth County, Kansas, where the firm is completing loop construction to augment main line capacity between Texas Panhandle-Hugoton reserves and the terminus in the St. Paul-Minneapolis area. Twenty-six miles of 24-inch loop is being put under ground with every joint being welded. Additional horsepower is being added to compressor station equipment.

While relatively small diameter pipe has been laid as an all-welded unit and larger diameters have been similarly constructed as water ducts, supervisors of the construction of the present loop report this as being the first time a 24-inch natural gas carrier has been all-welded. In the case of small diameter pipe, stresses due to temperature change are afforded relief through greater "play" in the ditched pipe, and in water ducts temperature changes of the pipe are controlled and minimized by the fluid it carries. "Play" of the line within the earth is subject to pipe-to-earth friction; this being greatest with large diameters where the area in contact is relatively great; additional strain is internal stress. Precautionary means are being applied in the present construction to alleviate these stresses. Engineers with other firms have visited the work to study the methods being applied.

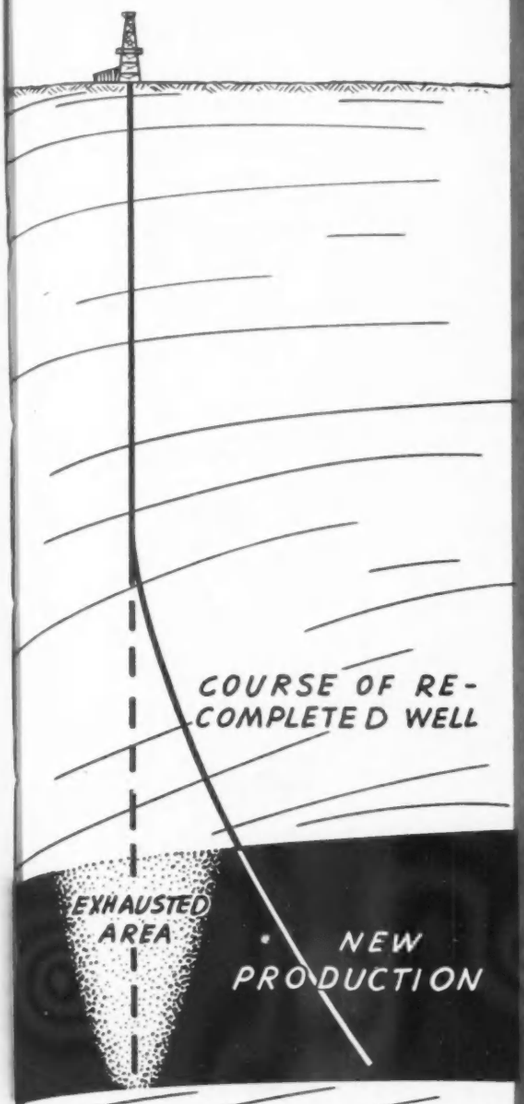
It has been routine practice to weld joints into sections of varying lengths, and to connect these sections by some flexible means other than welding to relieve stresses after the line is buried. Where considered advisable expansion sleeves and special bends have been installed to allow for expansion and contraction. Instead of comprising a unit line, such construction assumed flexible characteristics.

Northern Natural Gas Company's loop is of 24-inch line pipe with a 9/32-inch sidewall, beveled for electric welding. It is first strung on the right-of-way, then electrically welded by the "stovepipe" method.

Welding is by an established rule with a front man tacking on the new joints as they are added to the line. The second step is to



Line welded, primed, hot coated and spiral wrap wound on is ready for ditch.



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run a stringer bead around the pipe. This is followed by a complete bead put down with 5/32-inch rod, and another bead using 3/16-inch rod. The last and final bead is also made with 3/16 rod to complete the "stove-pipe." Time required per weld approximates 45 minutes, including time for moving. Nineteen generators are being used and as one man makes about 15 welds in 10 hours, the unit line is extended about one mile per day.

A primer and hot coat is then put over the pipe and a spiral wrapping wound on with 18-inch or protective pipe is 28 inches in diameter (O.D.) for increased safety.

Machine dug ditch varies according to local terrain but averages 72 inches in depth with a width of 42 inches. This allows approximately 9 inches between each side of the line pipe and the walls of the ditch with the pipe centered. The pipe is made to conform with the ditch changes by hot bending. As the line is welded, bent and protected it is lowered into the ditch by tractor booms.

In establishing the line within the ditch, special effort is made to throw in all slack possible to is given the line. Backfill is by dragline.

Careful examination was given the ability of the welders before they were approved for the work as in addition to initiating an unproven construction method, the line must pass a 500-pound pressure test at completion. As a test of a welder's ability, two pipe samples were set up, properly beveled, and completely welded. From the ring the inspectors cut 12 coupons for analysis and different tests. If only one bad coupon is found, the welder is given another chance; if two, he is automatically eliminated from the crew.

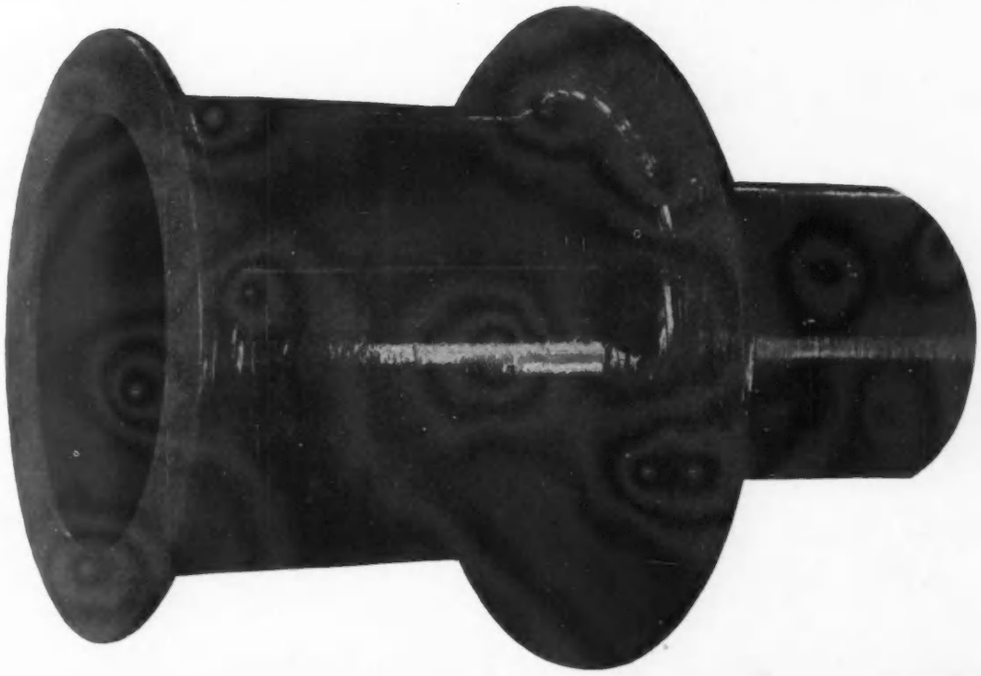
Hot bends were made to conform the pipe to the floor of the ditch, which varied roughly with surface irregularities.

material. Cleaning and coating is done in one mechanical operation. Where the ditch is through sections that might ordinarily be wet, or whether for any other reason the supervisor concludes electrolysis might be greater than normal, the line is doubly protected by additional coatings. Major highway crossings have been tunneled and large casing placed through the excavation as conduit for the loop. In the case of highway U. S. No. 50, east of Ellsworth, the outer

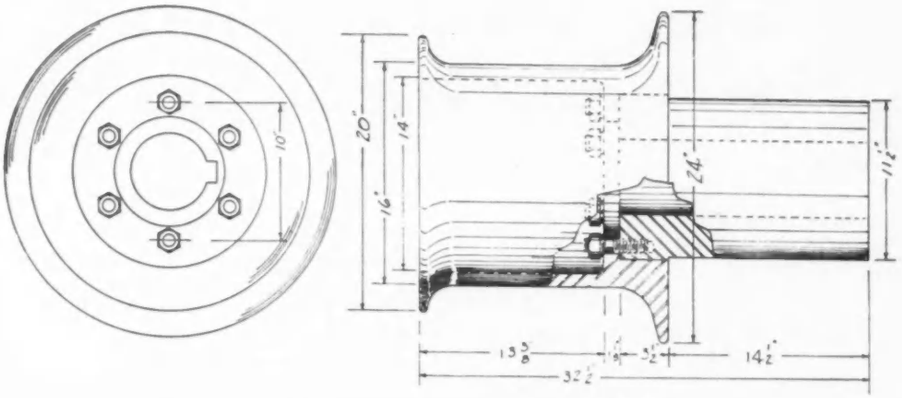
counteract later tendencies toward excessive stress. Where the ditch is straight and the floor is level, the only slack possible is acquired through snaking the pipe across the floor of the ditch. Where the ditch goes over a high spot and an overbend is made, the pipe is held off bottom by one foot and where a sag is made, the pipe touches bottom. Side bends ride heavy on the outside wall. By closely controlling the actual lowering and placement of the pipe in the ditch a considerable amount of "play"

Of the twelve coupons cut, four are machined off flush with the pipe. Two are bent toward what would have been the outside of the line, the other two being bent to the inside of the pipe. Four other coupons, also cut as a rectangle across the weld, are pulled for tensile strength and must break in the weld. Four pieces are given the nick-break test and are examined for general texture of the weld; consistency, porosity and slag content being determining factors in this examination.

HUNT EXTENDED TYPE 24" CATHEAD



Steps Up Drilling Speed . . . Cuts Down Rig Wear



Simple, two-piece design facilitates removal and replacement of cathead proper. A mandrel is keyed to the drawworks shaft, and the cathead is bolted to this mandrel. If removal is necessary, the operator merely unbolts the cathead from the mandrel.

THE HUNT 24" extended type Cathead has brought to the field the following valuable advantages: It speeds up catline operations despite the fact it permits running the drawworks at a slower speed. Fewer wraps of the catline are required, which, combined with slower operating speed, reduces the hazard of personal injury to the operator. Heat caused by catline friction is more quickly dissipated, preventing damage to the catline and eliminating shutdown time for cooling.

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HUNT TOOL COMPANY
HOUSTON, TEXAS, U. S. A.

Butane Used as Penetrant in Acidizing Kansas Completion

A KANSAS wildcat, finding low gravity, highly viscous crude in Arbuckle lime was acidized successfully by introducing butane into the formation as a cutting agent to precede acid treatment of the formation. The test, now completed to give a new pool to Rooks County on the northwest extremity of Central Kansas Uplift development, is Mitchell Drilling Company's Vereka 1, CS½ SE SE 21-8-19w. The well has been accorded a potential of 1418 barrels by Kansas Corporation Commission as a result of a draw-down test.

As drilled, the test found Kansas City-Lansing lime at 3171 feet, where 7-inch pipe was set. The Arbuckle lime was topped at 3428 and at 3429 feet the well began showing heavy oil. Five and one half inch casing was set at 3428 feet and drilling was continued to 3434 feet where the wildcat picked up the main paying section of the Arbuckle lime. One additional foot was drilled into the pay section.

When tools were pulled from the hole and the well given its first pumping test it made 28 barrels in two hours. The crude was heavy, testing 20 degrees gravity, A.P.I. Following study it was decided that the heavy oil was of such consistency that it might tend to insulate treating acid from the formation, reducing the effectiveness of the acid and consequently reducing the benefits to be derived from the use of acid. From this line of reasoning operators decided a penetrant might be used to make the crude less viscous by thinning it to a higher gravity. By obtaining such a physical reaction, the following treatment would provide greater freedom in contacting and working on the formation.

The compounded method was applied by stages. The first act was to run in an acid gun and jet the face of the pay so that the formation would more readily accept the introduction of butane. Two thousand gallons of 7 percent acid were used in this operation.

Compounded pumps were used to put the butane into the hole through a tubing string with water between tubing and casing. Discharge pressure of the pumps was 600 pounds, suction pressure 90 pounds, the latter being slightly above the vapor pressure of the butane under conditions then existing. A total of 1000 gallons of butane was introduced into the well. After the penetrant had been allowed sufficient time to physically react, 750 gallons of normal treating acid were added.

There is, of course, a reasonable question as to the actual benefit derived by the use of the butane. Under the circumstances its application was entirely logical and the final test showed a well considerably better than was first indicated. There is small doubt but that the butane did thin the crude where it could intimately mix, and also another action, and probably the most important, was the considerable reduction of the film of oil adhering to the formation as it was scrubbed by the butane. There is no way of comparing the possible results of a routine treatment with the potential gained by the compounded method.

In California and Wyoming butane and lighter ends have been used to aid pumping and to decrease the viscosity of crude for transportation. In New Mexico, Warren Petroleum Corporation has circulated butane to clean wells. Both uses have been successful mainly through the high penetrating action of the fluid.

Liquid butane is not difficult to handle. However, in pumping its connections must be tight and care must be exercised to keep the butane in the liquid state. If allowed to vaporize a pump lock can result and if air enters the system carrying the vapor compression may produce an explosion by ignition of the vapor by diesel action.

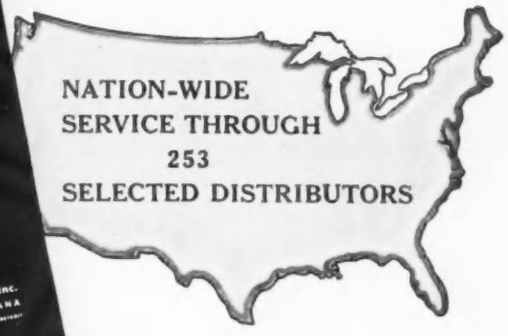
Belting Allows Tractors To Cross Highways

WHEN crawler-type tractors and other heavy machinery are working on properties that are bordered or cut by surfaced highways and roads, it often-times becomes quite a problem to have to cross over from one location to another without cutting or defacing the road surfacing. In many states, laws prohibit the use of lugs on tractors on a highway, so it is usually necessary to lay boards or some other protecting surface over the road for the tractor to roll upon, in order to cross the road.

A contractor in one of the fields on the West Coast overcame this difficulty in a simple, time-saving manner. In his tool-box he carries two rolls of discarded 8 to 12-inch medium weight canvas belting, each of sufficient length to lay across the average 20-foot road. It is but a minute's work after the tractor is spotted at right angles to the road, to unroll the belting across the road, one length for each track.

The belting effectively prevents the average lugs from cutting into the surfacing material. Another advantage lies in the fact that it will continue to lie flat should automobiles have to pass over it before the tractor can be driven across.

For Your Industrial Electronic Needs



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WHAT *Is It We*

THE SITUATION at Washington, where the government—the American people—faces an emergency which requires a tremendous spurt of private industrial effort, and officialdom, or a part of it, still clings to its feeling of antagonism toward capitalistic industry, is illustrative of the accumulated effect of the seven years of private industry baiting which has been indulged in so freely by official Washington. Private industry, against which the New Deal's guns have been trained since 1932, is asked to assume a national defense burden calling for heavy investments. At the same time Washington is over-run with those who by their every effort would destroy a return on an investment. These men probably realize that the government itself cannot do the job confronting the American people. With all their ignorance, they instinctively feel that they must run to private industry for efficiency—but years of socialistic leanings and teachings on their part will not permit them to forget their antagonism toward the private industry on which they must finally depend. The net result is a chaos which is crippling a needed defense program.

In normal times it might take years for a pay-off to come on the crack-pot thinking of the New Deal. Under the present emergency we are faced with the startling conclusion that it may come quickly—that even the leader of the New Deal finally may be faced with the stark fact that we can't buy our way out with a signed blank check.

As we listen to some of the barrage which constantly assails us from Washington, we wonder if some of the men who were elected to represent the American people there, and some of the men who have been appointed, intend to leave us a Democracy to defend. We wonder if they haven't something besides Democracy in their mind as the goal. Frankly, we wonder if it isn't some sort of socialistic state which some of them would like to create for the rank and file of American citizens to defend. Some may even aim beyond a socialistic state to a totalitarian state.

We hear the word "capitalism" used with such looseness by some of these leaders and by some of their more radical followers, that we wonder if they fail to realize that "Capitalism" and "Democracy" are each necessary to the other.

To a person who knows what a capitalistic state really is, the mouthings of those who see it as something sinister, something to be destroyed before it destroys America, are sickening, but equally sickening is the acceptance by a growing portion of the American people of the term to mean something which it definitely does not mean.

Says Webster's Unabridged Dictionary, under the heading of "Capitalism":

> *"specif., The established economic system of most modern civilized countries in which the ownership of land and natural wealth, the production, distribution, and exchange of goods, the employment and reward of human labor, and the extension, organization, and operation of the system itself, are entrusted to, and effected by, private enterprise and control under competitive conditions."*

When they who rant against "Capitalism" seek to sell Americans on the idea that "Capitalism" is something sinister, something which must be wiped out, they do not say, "we are opposed to a man owning a home . . . we are opposed to a person possessing property . . . "

They say: "We are opposed to the undue and ill-gotten accumulation of property—we are for the 'have-nots' as opposed to those who have."

And anyone who has more property than the person they are talking to may fall under the category of those who own too much.

The old-fashioned idea to which we cling is that a man should be allowed to accumulate as much as he can accumulate honestly. We find nowhere in our definition of capitalism the right to accumulate property illegally. It just isn't there.

Opposed to Capitalism are many other forms of society. Socialism is offered by Webster for comparison.

Are to Save?

In the socialistic state the individual owns nothing but shares in the common wealth. Socialism is an idealistic state which forms the perfect hotbed to germinate the seeds of Fascism, Communism or Nazism, triple words which ultimately spell dictatorship. Exhibits A, B, and C are Italy, Russia and Germany. To the thinking man no other examples need be offered.

Thus, when a country leans away from Democracy it leans first—unless it is given a shove as was the case in Russia—to a socialistic state —but the others follow.

Why do we wonder if there are not many among the elect and the appointed at Washington who would leave us something besides a Democracy to defend?

The record is fairly clear. Let us cite the testimony of Adolph Berle, Jr., Assistant Secretary of State, before the Temporary National Economical Committee:

"The government will have to enter into direct financing of activities now supposed to be private, and a continuance of that direct financing must be inevitably that the government will ultimately control and own those activities . . . Over a period of years the government will gradually come to own most of the productive plants of the United States."

And listen to the testimony of Harlow R. Person, consultant for P.W.A. and Rural Electrification Administration:

"The establishment of an expanding social economy will require the elimination and revision of many elemental factors. Let us hope this can be accomplished without blind violence—The new order will require modification of such concepts as those of private property—of the function of the corporation — of saving, spending for investment and consumption. The leaders in Russia have large visions in respect to liberty eventually. *It has been restricted while they are getting their foothold!*"

Not long ago we read in the news magazine "Time" a review of a book by Communistic Strachey of England. The book, "A Programme for Progress" lays down a formula for converting a Capitalistic (i.e.: Democratic) country into a Communistic country without bloodshed. "Time's" review says in part:

> "Comrade Strachey's program for gradually abolishing capitalism: 1) vast public works; 2) reduction of the rate of interest; 3) discriminatory taxes; 4) excessive pensions and allowances; 5) unlimited government spending; 6) 'popular control' of the banking system; 7) government control of payments for foreign goods.
>
> "The country in which this program had been most nearly realized was the U. S. Loud was Comrade Strachey in praise of the New Deal; he differed from U. S. Communists chiefly in his praise of Franklin D. Roosevelt. But the New Deal had made one fatal error, he felt, on its way to becoming a dictatorship of the proletariat—it had neglected to take over the banking system. So closely did Dissenter Strachey follow the Communist Party line that to his embarassment he found himself treading on the heels of his old friend, Fascist Oswald Mosley. Reluctantly Author Strachey admitted that his program was strangely similar to that of the Nazi Government. But, he explains, fascism is a dictatorship of the capitalists; the success of his program presupposes a dictatorship by labor."

Americans need to remember that the right to own property, the right to the fruits of one's labor, the right to independence of action as long as that action is not contrary to the general public good, the right to free speech, the right to freedom of thought, the right to participate in the governing of one's native land, are the combined rights under Democracy and Capitalism. Deviation therefrom first leads to a pink, idealistic state known as Socialism, which, by reason of the fact that it fails to take human nature into consideration, quickly develops into the blood red of Communism, Nazism, and Fascism.

The men we have quoted as having given expression to thoughts which are counter to sound Democracy are not foreigners seeking to impose a foreign will on America. They are men identified with the New Deal in the United States. True, they were appointed. True, they probably could not even be elected dog catchers in their home towns, but they represent a focal point of official attack on Democracy.

America hasn't deserted the ideals of Democracy yet — but there are those who would steer us in a direction away from them. Warned, we may avoid the pitfall.

We are willing to do our part in the defense of America, regardless of what happens to our country, but we believe that we have just as much an obligation to prevent the wreckers from wrecking Democracy here as we have to defend what they would have left if it were attacked from abroad. Termites in the U. S. A. destroy more property annually than hurricanes coming up from the Caribbean. They bore from within, and their damage frequently is done while the innocent property holder is unaware of what is happening.

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Editorial Comment—*Continued*

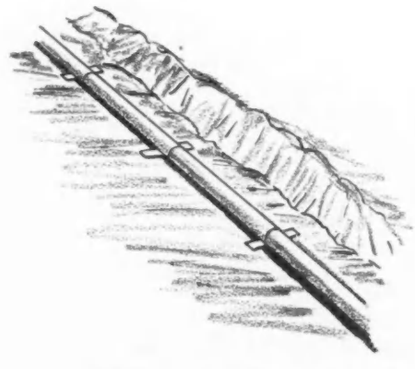
A Good Policy

WE congratulate the Board of Directors of The Texas Corporation on promptly accepting the resignation of Captain T. Rieber, chairman of the board. Without passing in any manner on the report concerning a German agent which led to the resignation, and whether or not there is any truth to the rumors which we have heard from time to time that Captain Rieber and his board did not see eye to eye on certain matters of management, the facts were apparent that The Texas Corporation was being criticized unjustly by many American citizens.

The record of The Texas Corporation in its cooperation with the American government in World War No. 1 is too well known to need comment. The private records of Texas company officials and employees as sound American citizens are too well known to their friends to warrant defense. But the American public, in these days of intense feeling of sympathy for beset democracies across the water, is liable not to differentiate, in reading a newspaper story, between the action of an individual—innocent or otherwise—and the policy of a company of which he might be a co-head. The action of the Board of Director leaves no doubt in the mind of the American people—if there ever was any doubt—that if there were anything wrong or indiscreet in the beliefs or actions of its Board Chairman, the board itself does not share them.

A Plus Value of Progress

A TRIBUTE to progress within the oil industry is to be seen in the reports of the tropical hurricane which swept the oil section of Southern Louisiana and the Texas Gulf Coast last week. Twenty-five years ago the reports would have mentioned hundreds of oil derricks being blown down. The report on the hurricane last week made no mention of derricks—the derrick loss was so small as not to warrant attention. The answer is that during the past two decades steel derricks have supplanted wood derricks and one of the plus values which the industry is receiving from steel derricks is their ability to live through storms which would have made splinters of wood derricks.



HIGHLIGHTS IN THE WEEK'S NEWS

Washington

Suit Indicates That Off-Shore Fight May Be Abandoned

Indications that the Department of Justice and the Navy have abandoned Secretary of the Interior Harold L. Ickes in his fight to have the underwater oil fields off the California and Gulf coasts declared government lands were seen in Washington last week in a suit recently filed by the Attorney General in the California courts, seeking condemnation of 333 acres on Terminal Island, in Los Angeles harbor, sought by the Navy for defensive works.

The suit named as respondents the city and county of Los Angeles, the city of Long Beach and other parties, and is based on the contention that the island is "made" land and did not exist when the state was taken into the Union.

The Department of Justice also asks for considerable off-shore submerged land, ostensibly for dredging and filling, but both Terminal Island and the adjacent submerged area are known to be oil-bearing and, in fact, there are producing wells on the island.

In view of the fact that repeated efforts have been made in Congress to secure legislation either asserting the title of the government to the offshore lands or authorizing the Attorney General to bring suits to determine where title lies, the resort of the Department of Justice to condemnation proceedings, which imply an admission that title to the lands sought lies with the holders from whom it is sought to be taken, is seen as indicating the abandonment of the Ickes-supported government-ownership contention.

The various measures looking to acquisition of the lands by the government, while initiated at the request of the Navy Department, which seeks to secure the California off-shore fields for a naval reserve, have been strongly supported by the Interior Department, whose officials and experts testified at the various hearings before Congressional committees on the matter.

With the development of the national defense program, the Navy Department became increasingly anxious to secure the land in Los Angeles harbor to carry out plans for an air base and other defensive works, and apparently felt that this could not be done in a reasonable time by any method which involved a judicial determination that title is vested in the United States, resorting as a result to the condemnation method of acquiring the needed land.

Dropping of Trust Suits Denounced by Senator

Controversy between the Department of Justice and the National Defense Advisory Commission over the advisibility of bringing new anti-trust suits against the oil industry at this time may be made an issue in Congress, it was indicated last week by Senator Guy M. Gillette (Democrat, Iowa) in a letter to Assistant Attorney General Thurman Arnold.

Senator Gillette demanded that Arnold give "satisfactory reasons" for not filing the long-planned suits, which have been held up in accordance with a request of the advisory commission for "more time" in which to study them.

Unless the department has cogent reasons for its action, he warned, he would not be "further justified in refusing to comment on what appears to be an unjustified attitude on the part of the department of justice in bringing to the courts the long and carefully prepared facts which you have assembled."

The senator explained that at Arnold's request he had brought about a suspension of hearings on his bills to divorce distribution from other branches of the petroleum industry, when advised that the department was preparing to institute a number of suits "for violations of existing statutes and requiring divestiture in some instances."

In a reply to Senator Gillette's letter, Arnold on August 16 declared there is no intention of abandoning the oil suit and indicated that the only question of difference with the defense council is over the issues involved.

While he did not go into detail, the assistant attorney general intimated that the problem was one of modifying the government's bill of complaint so as to eliminate matters which might involve or have repercussions on the national defense program.

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Courts

More Fines Assessed As Coast Case Nears End

Substantially following a recommendation of the government, unopposed by defense counsel, Federal District Judge Paul J. McCormick at Los Angeles has imposed fines of $1000 to $1500 on 20 independent oil refining companies and a fine of $4500 on one trade association in a suit brought last year against 41 major and independent oil companies operating on the Pacific Coast for alleged violation of the Sherman Act. Previously, Standard Oil Company of California, General Petroleum Corporation, Shell Oil Company and Union Oil Company of California had paid fines of $4500 on the same charges.

Fines of $1500 each were assessed against R. R. Bush Oil Company, Caminol Company, Century Oil Company, Envoy Petroleum Company, Estado Petroleum Corporation, Hancock Oil Company of California, Kern Oil Company, Mercury Petroleum Corporation, Olympic Refining Company, Triangle Oil & Refining Company and Macmillan Petroleum Corporation.

Companies fined $1000 each were Aromalene, Incorporated, California Oil & Refining Company, East West Refining Company, El Camino Refining Company, El Tejon Oil & Refining Company, Harbor Refining Company and Socal Oil & Refining Company.

The Independent Refiners Association of California termed by government counsel as a "chief instrumentality in furtherance of the conspiracy," was fined $4500. Counsel group informed the court that in his opinion the government's recommendations in settlement of the case were fair.

Corporate

Rieber, Board Chairman of Texas Corporation, Resigns

The Board of Directors of the Texas Corporation last week accepted the resignation of its chairman, Captain Torkild Rieber, following widespread publicity given his association with Dr. Gerhard A. Westrick, German commercial emissary to the United States.

The publicity was incident to a hearing that resulted in revoking a driver's license obtained by Westrick in New York. The license was revoked on the ground that the application contained false statements. At the hearing, a member of the Texas organization testified the company had paid for a car that Westrick used, but that there was an understanding that the company was to be repaid for it.

A statement issued by the company stated it was "with real regret on the part of each individual member of the board of directors that under existing circumstances it seemed advisable to accept this resignation."

The company emphasized that The

Texas Corporation and its subsidiaries had no permanent investment in Germany, has had no such investment there for 20 years, and that it has not delivered a single barrel of oil, either directly or indirectly, to the German government since before the present war started.

"Mr. Rieber said that in the course of certain business transactions in Germany he met Dr. Westrick and had retained him on occasions for The Texas Corporation because of his reputation as an able and responsible lawyer; that recently when Dr. Westrick visited the United States, Mr. Rieber had extended to him business courtesies and loaned him a Texas Company car," the statement said.

"Dr. Westrick, rather than make use of the company car, stated he would prefer to have one of his own. Because of exchange restrictions, Mr. Rieber arranged for the advance of the money to buy a car, which money was to be thereafter repaid to The Texas Company.

"Mr. Rieber stated he had seen Dr. Westrick on three occasions; that he had never been in his Scarsdale residence; that he had not seen him since the eleventh day of June, and that so far as he, Mr. Rieber, knew, Dr. Westrick was here only in the interest of promoting business between the United States and Germany and had in the furtherance of that end seen many prominent business and professional men in this country."

Born in Bergen, Norway, on March 13, 1882, Rieber became connected with The Texas Company in 1905 when the company purchased the tanker of which he was master. He served in various capacities in the marine and refining departments until 1919, when he resigned to join the J. S. Cullinan interests. He became president of Galena-Signal Oil Company of Texas and vice president of American Republics Corporation, resigning in 1927 to become vice president of The Texas Company in charge of the export and marine departments. He was elected board chairman in August, 1935.

Pipe Lines

Propose 1500-Mile Gas Line To Atlantic Seaboard

Reserve Gas Pipe Line Company of Texas, headed by J. Wallace Bostick, last week filed application with the federal power commission for authority to construct a 1500-mile pipe line from a point in the Texas Gulf Coast area near the Louisiana state line to the Atlantic seaboard.

Estimated cost of the project, which the applicant said would be financed through sale of securities by a Chicago and New York firm, was set at $80,000,000. The line would traverse Louisiana, Mississippi, Alabama, Georgia, South and North Carolina, Virginia, Maryland, Pennsylvania and New Jersey.

The company, in its application, said natural gas can be sold in New York City, Philadelphia and New Jersey cities for less than the cost of present gas service in those places. It was proposed to sell gas at wholesale to present distributing companies in those areas.

Commitments in the Gulf Coast district for a supply of gas in excess of 4,500,000,000,000 cubic feet have been obtained, the commission was told.

The company said construction of the line would materially aid in carrying forward the program of national defense and make available for the first time natural gas resources of Texas to heavily populated areas on the Atlantic seaboard.

CAPTAIN TORKILD RIEBER
. . . he thought he was doing a courtesy

Compact

Compact to Meet August 23; Louisiana Will Not Join

The next meeting of the Interstate Oil Compact Commission has been scheduled by Chairman Leon Phillips for August 23 at Oklahoma City. Phillips has invited to the meeting Dr. A. G. White, director of the United States Bureau of Mines; Fred Van Covern, statistical director of the American Petroleum Institute; and H. B. Fell, vice president of the Independent Petroleum Association of America, who are expected to give data indicating the current trend of markets for crude and refined products.

In addition, Dr. R. E. Wilson, petroleum technologist for the National Defense Advisory Committee, has been asked to attend the meeting and discuss petroleum and the national defense.

Following a conference with B. A. Hardey, Louisiana State Conservation Commission, Governor Sam Jones said he had decided not to exercise his legislative authority to affiliate Louisiana with the compact for the present.

"As far as I am concerned," Jones said, "I can't see why Louisiana should enter the compact as long as there are other states outside it, particularly Illinois, where I understand there is no proration at all."

Louisiana is cooperating with the compact, he said, in that it regulates oil production more thoroughly than some of the states in the group.

Allowables

Texas Commission Grants Increase to 32 Fields

The Texas Railroad Commission has revised its proration orders to exempt 32 fields from shutdown. The result of the changes was an increase of approximately 24,532 barrels daily.

The Taylor Link field, allowable 1976 barrels; the Oakville field, allowable 695 barrels; the Mauritz field, allowable 817 barrels, and the Minnie Bock field, allowable 1188 barrels, have been exempt from all August shutdown days.

The following fields in the Victoria area which produce low-gravity high-octane crude were exempt from the last six shutdown days, August 11, 15, 18, 22, 25 and 30: Colmena, 196 barrels; North Government Wells, 6267 barrels; South Government Wells, 3042 barrels; Seven Sisters, 6435 barrels; South Seven Sisters, 433 barrels, Hoffman, 5387 barrels; Piedre Lumbre, 2049 barrels; Lopez, 4927 barrels; Placedo, 5386 barrels; McFaddin, 2494 barrels. The allowables indicated are the daily allowables now assigned in the commission's proration schedule.

The following fields in West Texas have been exempted from shutdowns on August 8, 11, 15, 18, 22, 25 and 30: Church-Fields, 3928 barrels; Estes, 7356 barrels; Goldsmith, 22,382 barrels; Gulf-McElroy, 8735 barrels; Keystone (Colby) 3226 barrels; Keystone (lime), 2010 barrels; McClintic, 9795 barrels; North Ward, 5887 barrels; Penwell, 3065 barrels; Waddell, 1753 barrels; and Ella Waddell, 30 barrels. These fields lie along Gulf Oil Corporation's pipe line and will add about 13,000 barrels daily net to the allowable of the fields affected.

The commission increased the allowable for the Big Lake field from 5245 to 6171 barrels daily. This order, retroactive to August 1, increases the field allowable 657 barrels daily when proper shutdown deductions are made.

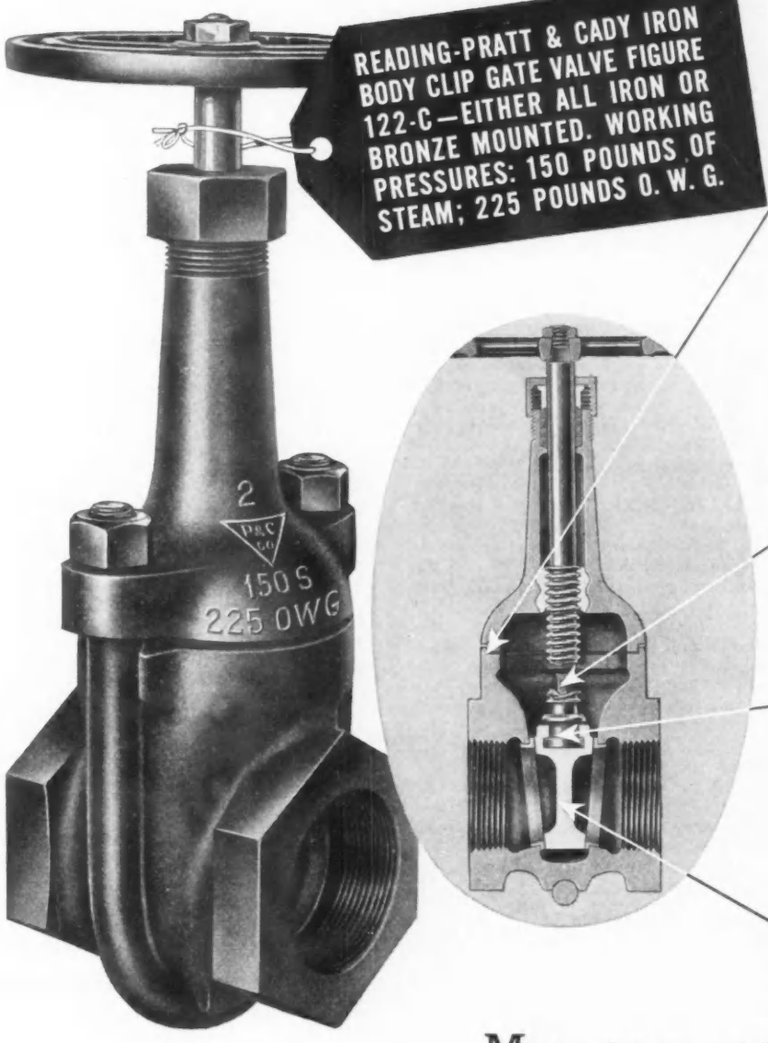
The commission also restored the allowable for the Walnut Bend field, Cooke County. This field was cut substantially after Sinclair Prairie Oil Marketing Company reduced the price to be paid for oil from fields in this area, and the allowable was raised from 2240 to 3960 barrels per day, retroactive to August 2. This is an increase in the per-well allowable from 35 to 60 barrels.

Three-Judge Court Studies Kansas Proration Suit

A three-judge federal court sitting at Wichita last week took under advisement a suit brought by Bay Petroleum Corporation, Denver, and Morgan, Flynn & Cobb, Tulsa, to enjoin the Kansas Corporation Commission from ordering proration in the Otis field, Rush County. The action is a test of constitutionality of Kansas proration statutes.

Judge Sam G. Bratton, New Mexico, told counsel that a special master may be appointed to obtain additional facts, adding that "the court is convinced conclusion of this case should be speeded up in every possible manner."

4 Reasons for the Better Service You Get from these CLIP GATE Valves


READING-PRATT & CADY IRON BODY CLIP GATE VALVE FIGURE 122-C—EITHER ALL IRON OR BRONZE MOUNTED. WORKING PRESSURES: 150 POUNDS OF STEAM; 225 POUNDS O. W. G.
2
P&C Co
150 S
225 OWG

Most maintenance jobs on Clip Gate Valves are caused by lack of proper joint or seal between body and bonnet or by an under-sized wedge.

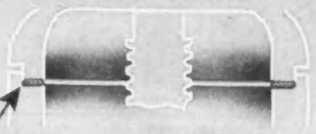
Reading-Pratt & Cady dispose of much of this grief.

Cylindrical body and bonnet make it possible to use a male and female joint with asbestos gasket that assures a definitely tighter joint.

Then the noted, heavy I-Beam Wedge is sturdier itself, makes possible a much heavier connection between wedge and stem and affords added resistance to distortion and corrosive conditions.

You will find it worth while to get all the facts on these Iron Body Clip Gate Valves—and to get Reading-Pratt & Cady recommendations for any of your requirements for Brass, Iron or Cast Steel Valves.

1



TIGHT JOINT BETWEEN BODY AND BONNET

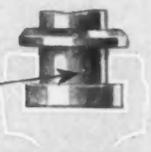
Round bonnet permits use of male and female joint. Uniform pressure is exerted on the round asbestos gasket assuring a tighter joint. Round bonnet is not distorted by pressure or temperature as stresses are equalized.

2

SUBSTANTIAL WEDGE GUIDES · CAST IN BODY

Oversized body guides, cast integral with body and fully machined wedge guides give better guiding and longer life to the wedge.

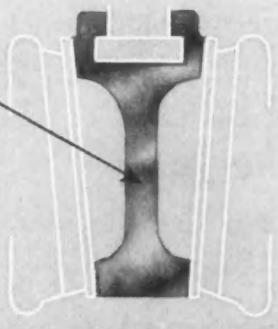
3



STRONG CONNECTION WEDGE TO STEM

A heavier wedge gives plenty of room for additional contact surface between wedge and stem.

4



HEAVIER WEDGE STANDS UP LONGER

I Beam type wedge is made heavier to resist distortion and to afford long life under corrosive and erosive conditions. This reduces stops for maintenance and is an outstanding feature of this valve.

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AMERICAN CHAIN & CABLE COMPANY, Inc.

MEN IN THE INDUSTRY'S NEWS

J. M. TUTTLE, secretary and comptroller of Standard Oil Company of California since 1926 and a director since 1930, has been elected a vice president to fill the vacancy created by recent elevation of H. D. Collier to the presidency. He entered the service of the company in 1903 at San Francisco, becoming assistant general auditor in 1918, and general auditor in 1920. He became secretary in 1922.

J. H. MacGaregill, general manager of marketing, has been elected a director to fill the vacancy caused by the recent death of W. H. Berg, president and director. B. W. Letcher has been named secretary and comptroller, duties formerly handled by Tuttle.

J. S. BRIDWELL, Wichita Falls operator and past president of the North Texas Oil & Gas Association, last week was named to the directorate of the Texas Big Bend Park Association. Bridwell is also president of the West Texas Chamber of Commerce and of the Independent Producers' Equity Association, and is a member of the boards of the Mid-Continent Oil & Gas Association and the American Petroleum Institute.

HOUSTON NOMADS CLUB last week had as guests at a special luncheon meeting: Lawrence Cade, Standard Oil Company of Venezuela, San Joaquin, Venezuela; O. Kirkpatrick, British Controlled Oilfields, El Mene, Venezuela; J. E. Berry, Caribbean Oil Company, Maracaibo, Venezuela, and Ted Sutter, general manager of Baker Oil Tools, Inc., Huntington Park, California, and president of the Los Angeles Nomads Club.

HOMER McDUFF has resigned as drilling superintendent for Standard Oil Company of Venezuela and returned to the United States. Before going with the South American company, McDuff was with The Pure Oil Company and took a prominent part in creating the unit operation plan for the Van field of Texas.

TED GREEN, scout for British-American Oil Company in West Texas with headquarters at Midland the past 2 years, has been transferred to Calgary, Alberta, Canada, but will vacation in Colorado before reporting for his new duties.

MURRAY C. SELLS, president of Sells Petroleum Company, Longview, has been made chairman of finance committee that will cover the east portion of Texas in raising funds for the National Republican Committee.

J. W. CAIN, JR., honor graduate of the University of Texas with a B. S. degree in geology, has joined General Geophysical Company and will be stationed in Louisiana.

J. E. BUCY, West Texas superintendent for Lion Oil Refining Company, recently issued safety awards to 16 production employes. A 10-year safe driving award was given to C. R. Hopson, and 10-year safe working awards were given to A. M. Kelly, A. E. McDougal and Hopson. Five-year safe driving awards were given H. D. Edwards, W. T. Mitchell, B. L. White and Bucy, and 5-year safe working awards were issued to J. M. Bain, G. V. Divelbiss, J. C. Franklin, L. V. Gills, C. W. Howard, J. B. Hancock, F. D. McMillan, Pete Marsh, J. S. Peebles, W. J. Westbrook, and Bucy, Edwards, Mitchell and White.

M. M. HELLER, Shreveport, has been promoted to assistant superintendent of compressor stations by United Gas Pipe Line Company. He joined the company in Houston in 1937, and went to Shreveport when headquarters of the company were moved last year. He received a master of science degree at the University of Texas, where he was an instructor in mechanical engineering.

JOE FORTENBERRY, land and scouting department of Phillips Petroleum Company at Bartlesville, has been moved to Amarillo. H. N. K. Brooks, geologist, has been transferred from Enid to Oklahoma City.

ANTHONY J. WACKER, district superintendent for Tropical Oil Company at El Centro, Colombia, visited friends in Fairfax and Tulsa while on a three-month leave of absence. Wacker was at one time with The Carter Oil Company.

J. R. HORRIGAN, superintendent for Williams Brothers Corporation at Houston, is temporarily stationed at Norman, Oklahoma, to direct construction of a 194-mile gasoline line for Magnolia Petroleum Company.

WILLIAM V. VIETTI, president of Texas Petroleum Company of Colombia, is in California with his family on vacation. He is well known in the United States, having been with The Texas Company at various points before moving to South America a few years ago.

N. C. McGOWEN, president of Union Producing Company, Shreveport, and Paul Weaver, chief geophysicist for Gulf Oil Corporation, Houston, will be speakers at the Mississippi Oil Exposition at Yazoo City, August 28 and 29. The event will mark the first anniversary of the Tinsley Dome field.

B. I. ROUTH, formerly with Gulf Oil Corporation in Tulsa, has been named head of the department of petroleum engineering at the New Mexico School of Mines, Socorro, effective August 23.

C. H. WRIGHT, president, and F. L. Martin, vice president of Sunray Oil Company, Tulsa, inspected properties of the firm in the Wilmington field of California last week.

ROBERT M. TESAR, engineer for The Carter Oil Company, has been transferred from Meridian, Oklahoma, to Calhoun, Mississippi.

C. K. JORDAN, engineer for Continental Oil Company, has been moved from Meridian, Mississippi, to Woodville, Texas.

JOE B. TIMS, pipe line superintendent for Lion Oil Refining Company, heads 12 members of his department with more than 10 years of accident-free service with 17 years, 7 months. Others in the group and their records are J. D. Kendrick, district gauger, 14 years, 11 months; W. H. Oliver, gauger, 11 years, 7 months; J. B. Abernathy, gauger, 13 years, 5 months; C. F. Faulkner, line walker, 11 years, 1 month; J. D. Herring, pump repair man, 11 years, 8 months; J. M. Elliott, gauger, 14 years, 10 months; V. M. Speer, gang foreman, 11 years, 3 months; L. O. Preddy, engineer, 17 years, 2 months; J. L. Nutt, pump repair man, 10 years, 1 month; D. C. Ellen, assistant district gauger, 10 years, 11 months, and J. L. Green, assistant district gauger, 10 years, 1 month.

ROGER LACY, East Texas producer and refiner, has organized the Southern Gas Company to operate a natural gas system from controlled production in the Willow Springs deep pool to Longview, Texas, where a franchise was obtained last March.

LAWRENCE CADE, drilling superintendent of Standard Oil Company of Venezuela at San Joaquin and El Roble, Eastern Venezuela, is spending his vacation in Houston.

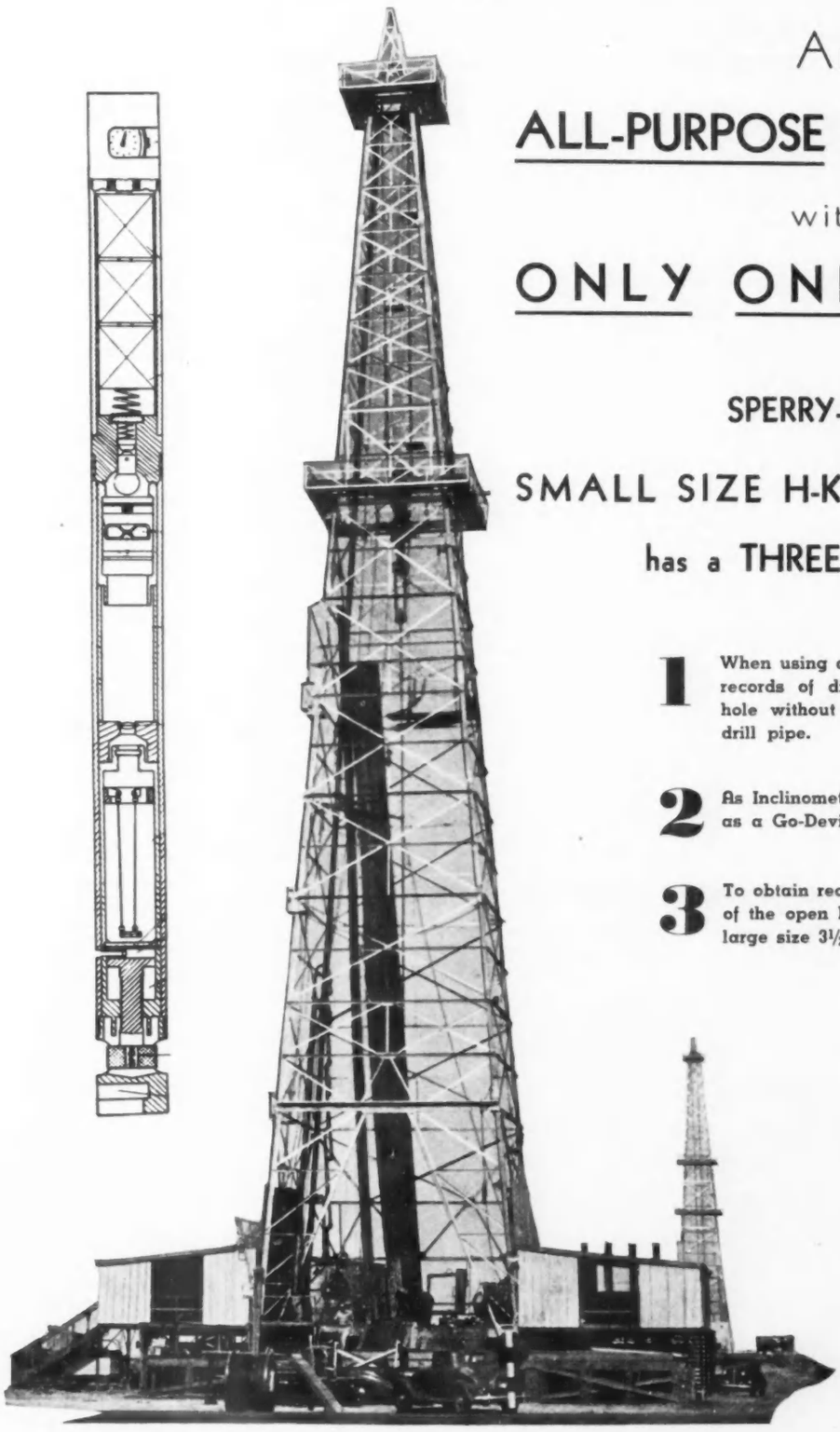
E. H. MOORE, New Iberia, Louisiana, and T. A. Richey, Jennings, Louisiana, were elected to the directorate of the Louisiana Oil Field Carriers Association August 15.

DIED:

J. B. WALLACE, 69, superintendent for Union Gasoline & Oil Corporation, died August 7 at Wheeling, West Virginia. A pioneer in Ohio, Pennsylvania and West Virginia, he was the first superintendent of Hope Natural Gas Company in West Virginia. Later he was identified with Logan Natural Gas Company in Ohio, and for the past several years has been in charge of the Union Gasoline & Oil Corporation's properties in West Virginia, Pennsylvania and East Ohio. Survivors include a brother, H. A. Wallace, president of the United Fuel Gas Company, Charleston, West Virginia.

WILLIAM T. ATKINS, 56 vice president and director of Skelly Oil Company, died August 13 at his home in Muscatine, Iowa. A native of Johnson County, Missouri, Atkins became associated with the company in 1921 and more than 10 years ago became head of the marketing division.

EDWARD W. JONES, 58, president of E. W. Jones, Inc., Tulsa, died August 9 in a Tulsa hospital. He entered the oil business in 1920 with his brother, F. D. Jones, Dallas, and left the partnership to form his company in 1933.



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Moderate Operations Help Oil Inventory Situation

The industry has continued to hold crude production and refinery runs within moderate proportions, and fluctuations in stocks have been fairly satisfactory. Gasoline storage has been further reduced, although the surplus of that product remains large; and the needed expansion of the inventory of light fuel oil has proceeded.

These developments were reflected in the latest statistics of the industry, covering the week ended August 10.

United States crude oil production declined about 18,000 barrels to 3,475,300 daily for the week, according to the American Petroleum Institute, and was 2.1 percent lower than in the corresponding week last year. The output was about 182,000 barrels below indicated market demand, as estimated for August by the United States Bureau of Mines, with Texas largely responsible for the underage.

Runs to stills dropped sharply from 3,510,000 to 3,435,000 barrels daily, and were under the 1939 curve for the first time this year, the latter figure having been 1.1 percent smaller than the August, 1939, average daily runs of 3,472,000 barrels a day.

With refinery runs lower, production of gasoline declined to 11,005,000 barrels, for the week ended August 10, from 11,051,000 barrels the preceding 7 days. The gasoline output was almost 100,000 barrels a day lower than the average for August of last year.

Gasoline stocks decreased from 89,492,000 to 88,115,000 barrels in the week of August 10, but the latter figure was 12,000,000 barrels greater than the total of 76,066,000 barrels on hand a year previously. Stocks now are probably 15,000,000 barrels in excess of minimum requirements, and they likely will be similarly excessive when the fall-winter build-up begins after September 30. Consequently, an extension of current weak gasoline market conditions into next year seems inevitable.

In contrast with the unsatisfactory gasoline picture, the fuel oil situation is desirable. Stocks of light fuel oil, depleted by the heavy draft last winter, have been steadily expanded until they now are 5,000,000 barrels above the 1939 curve. The inventory of 41,377,000 barrels of gas oil and distillate fuel on hand August 10 compared with 36,077,000 barrels a year previously, a 14.7 percent gain. It has been estimated that 48,000,000 barrels in storage as of September 30 would assure an adequate supply upon entering the fall season, and if recent rates of addition should be continued, such an inventory would be approximated. The accumulation for the week of August 10 was nearly a million barrels.

Stocks of residual fuel oil continued to expand meanwhile, having increased from 106,919,000 to 107,601,000 barrels. However, they were 7 percent smaller than at the corresponding time last year, and comparatively large demand is anticipated in connection with the national defense program.

Because of curtailment of runs to stills, crude oil has been accumulating in storage, despite comparatively low output at the wells. The Bureau of Mines reported that in the week ended August 3 the inventory increased from 262,579,000 to 264,297,000 barrels.

Markets for Refined Oils Steady; Prices Unchanged

Virtually all prices of refined products were unchanged during the past week, as strict control of crude production and moderate refinery operations caused a steadying of the markets.

Heretofore, some marking down of prices has occurred nearly every week for a long period, quotations having been lowered materially from the levels of the early part of the year.

Gasoline was moving from Mid-Continent refineries in comparatively good volume last week, in fulfilment of contracts, and there was some interrefinery trading.

However, the exceptionally large stocks of gasoline now on hand are a heavy burden on the market.

Kerosene and light fuel oils received some attention from prospective buyers, but actual purchases were limited. There were reports in some districts of scarcity of light fuel oils, although stocks are being built up generally in anticipation of heavy demand next winter.

Demand for heavy fuel oil was comparatively good, and established prices were firmly maintained. Stocks of the heavy oils have been gradually increasing in recent weeks, but they are lower than at this time last year, and the inventory appears quite moderate in relation to prospective demand, as the national defense program is expected to cause large consumption by railroads and factories.

The markets for lubricants also appear to have been strengthened by the plans for rearmament, which foreshadow relatively large industrial requirements for those oils. Bright stocks currently are in particularly good demand, as shipments against domestic contracts have been relatively large. Through such movements, some refiners in Western Pennsylvania and also in the Mid-Continent have materially reduced their inventories, and in some instances plants are sold up for several months. Neutral oils also are in firm position, with supplies relatively scarce.

Encouraging coastwise shipments currently are the reduced tanker rates between the Gulf and North Atlantic ports. Rates for both clean and dirty boats were marked down another 1 cent a barrel, latest fixtures indicated. Current rates on clean boats are 19 cents for gasoline, 20 cents for kerosene, and 21 cents for No. 2 fuel oil, while dirty boats are available at 18 cents for 30-gravity or lighter crude and at 20 cents for 10-20-gravity oil.

Trends of Operations and Changes in Stocks

Figures are from American Petroleum Institute weekly reports, except those on crude stocks, which are from Bureau of Mines weekly reports

WEEK ENDED	Crude Oil Production (Barrels Daily)	Crude Runs to Stills (Barrels Daily)	Crude Oil Stocks (Barrels)	Gasoline Stocks (Barrels)	FUEL OIL STOCKS	
					Gas Oil & Dist. Fuels	Residual Fuel Oil
1938:						
November 12	3,243,250	3,180,000	273,394,000	[6]67,551,000	34,175,000	120,491,000
December 10	3,245,100	3,150,000	[6]269,509,000	68,687,000	32,068,000	118,711,000
1939:						
April 22	3,526,700	3,280,000	277,156,000	[2]87,769,000	21,085,000	105,035,000
April 29	3,568,200	3,405,000	278,440,000	86,794,000	[7]25,844,000	[7]108,409,000
May 6	3,580,900	3,275,000	[2]278,607,000	86,216,000	26,167,000	108,597,000
July 29	3,539,100	3,460,000	268,513,000	77,887,000	34,900,000	114,053,000
August 5	[1]3,909,400	3,445,000	268,982,000	76,431,000	35,601,000	114,512,000
August 26	[5]1,690,800	3,475,000	246,982,000	73,475,000	37,722,000	116,237,000
September 30	3,658,200	3,560,000	233,023,000	71,168,000	38,081,000	115,466,000
October 7	3,435,850	3,505,000	231,564,000	[6]71,152,000	38,549,000	114,397,000
October 21	3,771,550	[2]3,650,000	[2]229,127,000	72,122,000	39,358,000	115,060,000
October 28	3,498,500	3,520,000	230,453,000	72,660,000	39,562,000	114,786,000
November 25	3,818,100	3,510,000	231,811,000	75,595,000	38,527,000	112,106,000
December 30	3,545,000	3,445,000	237,742,000	80,985,000	34,184,000	106,680,000
1940:						
January 27	3,611,600	3,470,000	237,339,000	87,914,000	27,407,000	103,015,000
February 24	3,732,100	3,490,000	240,836,000	96,719,000	25,390,000	103,419,000
March 30	3,841,250	3,585,000	250,561,000	101,370,000	23,778,000	105,081,000
April 20	3,858,550	3,535,000	254,881,000	[1]102,817,000	24,779,000	103,323,000
April 27	3,845,250	3,555,000	256,670,000	102,452,000	24,997,000	102,552,000
May 25	3,835,650	3,580,000	259,330,000	100,297,000	28,356,000	104,015,000
June 22	3,846,450	[1]3,690,000	260,891,000	97,276,000	32,751,000	104,683,000
June 29	3,639,550	3,625,000	262,059,000	95,142,000	33,590,000	104,486,000
July 6	3,602,400	3,575,000	261,732,000	93,275,000	34,730,000	105,343,000
July 13	3,560,750	3,565,000	261,494,000	92,372,000	36,221,000	105,710,000
July 20	3,580,350	3,540,000	261,596,000	91,789,000	37,504,000	105,864,000
July 27	3,690,400	3,555,000	262,579,000	90,173,000	38,981,000	105,924,000
August 3	3,493,550	3,510,000	264,297,000	89,492,000	40,448,000	106,919,000
August 10, 1940	3,475,300	3,435,000	.....	88,115,000	41,377,000	107,601,000
August 10, 1939	3,550,100	[8]3,472,000	[4]268,982,000	76,066,000	36,077,000	115,563,000
Change in past year	—2.1%	—1.1%	—1.7%	+16.1%	+14.7%	—6.9%

[1] All time peak. [2] Peak for year. [3] Lowest since April, 1922. [4] Stocks, August 5, 1939.
[5] Lowest since October, 1922, due to shutdown of six Mid-Continent States. [6] Lowest for year.
[7] Prior to April 29, 1939, data did not include stocks at terminals, in transit, etc., except in California.
[8] August, 1939, daily average.

Crude Market Remarkably Firm in Mid-Continent

The crude oil market in the Mid-Continent is generally firm, with no distress crude within reach of the pipe line systems, having been appreciably strengthened by the decline of Illinois production and the simultaneous stricter curtailment of output in Texas and other states of the southwest.

Adding strength, also, has been the stimulating effect of the national defense program, which already has caused better demand for fuel oils, lubricants, and other products.

Since it reached its peak of about 517,000 barrels daily in late June, Illinois crude output has declined sharply to less than 400,000 barrels a day, and it is expected that the production will drop to 325,000 barrels daily by the end of the year.

The sharp decline already has caused shutdown of 6 small refineries in Illinois, with combined refining capacity of about 12,000 barrels daily, and large refiners of the Mid-West have been forced to line up new sources of crude in the greater Mid-Continent. The markets consequently have improved materially in Kansas, Oklahoma, and North Texas, as those areas have begun to regain business that they temporarily lost to Illinois.

Standard Oil Company of Indiana is among the companies that have turned to the Mid-Continent for additional crude. The company has taken on 5200 barrels daily in North Texas, in competition with other buyers.

Magnolia Petroleum Company is credited with having arranged to route 15,000 barrels daily of Oklahoma crude runs through Sinclair Refining Company's system to the East St. Louis plant of Socony-Vacuum Oil Company, Inc.

Magnolia has been moving 8000 to 15,000 barrels daily of Oklahoma crude northward to Socony-Vacuum's East Chicago plant since its own production and outside purchases in Illinois proved inadequate some months ago. Now Magnolia finds that its Illinois daily takings are barely capable of filling current requirements of affiliated plants at Detroit and Buffalo.

Wholesale Prices of Refined Products

REFINED GASOLINE	Range Late Last Week (Cents a gal.)		Changes from week Before	
Oklahoma Refineries:				
60 Octane and under	3⅞	4¼	...	...
63-66 Octane	4¼	4⅝	...	...
72-74 Octane	4⅝	5¼	...	...
Mid-Western Tank Car:				
60 Octane and under	3⅞	4¼	...	...
63-66 Octane	4¼	4⅝	...	...
72-74 Octane	4⅝	5¼	...	...
New York Harbor:				
70 Octane and under	5½	6	...	...
72-74 Octane	5½	6¾	...	...
NATURAL GASOLINE				
Grade 26-70:				
F.O.B. Group 3	1½	1½	...	...
F.O.B. Breckenridge, Texas	1¼	1¼	...	...
KEROSENE				
Oklahoma Refineries:				
41-43 water white	3⅞	4¼	...	...
42-44 water white	4	4⅝	...	...
Mid-Western Tank Car:				
41-43 water white	3⅞	4¼	...	...
42-44 water white	4	4⅝	...	...
New York Harbor	5⅛	5⅛	...	...
RANGE OIL				
At Oklahoma Refineries	3½	3⅞	...	...
In Mid-Western Market, Group 3 basis	3½	3⅞	...	...
LIGHT FUEL OILS				
Oklahoma Refineries:				
No. 1 straw	3¼	3½	...	...
No. 3	3⅛	3⅜	...	...
Mid-Western Tank Car:				
No. 1 straw	3½	3⅝	...	...
No. 3	3⅛	3⅜	...	...
New York Harbor:				
No. 1	5¼	5⅛	...	...
No. 3	4⅜	4⅜	...	...

HEAVY FUEL OILS	Range Late Last Week (Per Bbl.)		Changes from week Before	
Oklahoma Refineries:				
No. 6	$0.55	$0.55	...	...
Mid-Western Tank Car:				
No. 5	.75	.75	...	...
No. 6	.50	.55	...	...
New York Harbor:				
No. 5	1.45	1.70	...	...
No. 6	1.15	1.25	...	...
BUNKER C FUEL OIL (Per barrel, ships bunkers)				
Gulf Coast	$ .80	$ .90	...	...
New York Harbor	1.15	1.25	...	...
DIESEL OIL (Per barrel, ships bunkers)				
Gulf Coast	$1.50	$1.70	...	...
New York Harbor	1.80	1.85	...	...
Los Angeles Basin, 27 gravity	1.15	1.40	...	...
LUBRICATING OIL (Cents a gal.)				
Oklahoma Refineries:				
Bright Stock, 150-160 viscosity at 210°, 10-25 pour test	13½	15½	...	...
Neutral oil, pale No. 3 color, 150 viscosity at 100°, 0-10 pour test	8	10¼	...	...
Western Pennsylvania:				
Bright stock, 145-166 viscosity, at 210°, 25 pour test	12	13	...	...
Neutral Oil No. 3 color 150 viscosity, at 70°, 25 pour test	19	19	...	...

United States Crude Oil Production Up 39,175 Barrels

Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Estimate of Daily Demand in August	State Allowable in August	BARRELS DAILY FOR WEEK ENDED Aug. 10	Aug. 17
TEXAS—				
Texas Panhandle	.....	.....	63,900	65,550
North Texas	.....	.....	89,900	91,900
West Central Texas	.....	.....	28,100	28,100
West Texas	.....	.....	191,900	193,800
East Central Texas	.....	.....	68,350	71,725
East Texas Field	.....	.....	374,900	374,950
South Texas	.....	.....	170,050	178,900
Texas Gulf Coast	.....	.....	188,100	185,750
Total Texas	1,326,400	1,194,943*	1,174,500	1,190,675
CALIFORNIA—				
Long Beach	.....	.....	43,800	44,500
Midway-Sunset	.....	.....	60,600	58,800
Kettleman Hills	.....	.....	45,100	47,000
Wilmington	.....	.....	83,800	84,400
Others	.....	.....	394,900	399,000
Total California	598,400	587,000†	628,200	633,700
OKLAHOMA—				
Oklahoma City	.....	.....	87,600	96,850
Seminole Area	.....	.....	94,500	101,500
Others	.....	.....	209,325	204,125
Total Oklahoma	402,600	390,000	391,425	402,475
ILLINOIS—				
Salem	.....	.....	177,500	170,900
Louden	.....	.....	74,500	77,100
Centralia	.....	.....	47,800	36,500
Other New Pools	.....	.....	93,400	96,550
Old Pools	.....	.....	10,300	10,450
Total Illinois	440,600	.....	403,500	391,950

DISTRICT OR STATE	Bureau of Mines Estimate of Daily Demand in August	State Allowable in August	BARRELS DAILY FOR WEEK ENDED Aug. 10	Aug. 17
LOUISIANA—				
North Louisiana	.....	59,857	65,200	64,950
South Louisiana	.....	214,763	216,175	214,800
Total Louisiana	276,100	274,620	281,375	279,750
KANSAS	166,800	170,607	169,150	187,000
NEW MEXICO	105,200	102,000	104,800	102,500
EASTERN STATES—				
Pennsylvania Grade	57,000	.....	70,650	70,800
Others, Eastern	35,900	.....	19,850	19,900
Total Eastern States	92,900	.....	90,500	90,700
MOUNTAIN STATES—				
Wyoming	81,300	.....	73,100	72,750
Montana	20,600	.....	18,800	18,350
Colorado	4,200	.....	3,600	3,625
Total Mountain States	106,100	.....	97,450	94,725
MICHIGAN	57,100	52,000§	54,100	54,300
ARKANSAS	65,200	73,000	72,350	72,800
INDIANA	10,000	.....	14,600	14,750
MISSISSIPPI	10,300	.....	11,800	15,700
NEBRASKA	.....	.....	200	150
‡Total 8 Prorated States	2,997,800	2,844,170	2,875,900	2,923,200
Total United States	3,657,700	.....	3,492,000	3,531,175

* Net basic 31-day allowable as of August 1, considering general shutdowns on August 1, 4, 8, 11, 15, 22, 25, and 30.
† Recommendation of Central Committee of California Oil Producers.
§ Department of Conservation estimate of actual production.
‡ Texas, California, Oklahoma, Louisiana, Kansas, Arkansas, Michigan, New Mexico.

WORLD-WIDE DEVELOPMENTS

By WM. V. GROSS, Associate Editor

Ask Restrictions Be Lifted From Private Companies

Because there is an ever-widening gap between Argentina's domestic production and domestic consumption, due to mechanization of industry at a pace faster than growth of the oil industry, "La Prensa," one of the nation's leading daily newspapers, asks in an editorial that all restrictions be removed from private oil companies in order that they may co-operate in remedying the deficiency.

The editorial points out that government production in Argentina, that is, production of Yacimientos Petroliferos Fiscales, is not increasing quickly enough in comparison with the rapid motorization of the country and that history does not know of any case where fiscal (government) production of petroleum alone can achieve optimum production. It adds that the increase of 8.365 percent in Y.P.F. production compared with that organization's production in the pre-war period is considered as hardly satisfactory.

Eventual government control of the Argentine oil industry has been the objective of legislation and policies of Y.P.F. for a number of years. The objective, so far as sales and distribution of petroleum products is concerned, already has been reached to all practical intents and purposes through government control of sales quotas of private organizations as distinguished from those of the Y.P.F. Through restrictive measures on drilling and exploration activities, state production has grown at the expense of private production to a point where state production totaled 914,752 cubic meters from January through June, whereas production by private companies amounted to only 656,429 cubic meters. Figures for the corresponding period of 1939 were 778,106 cubic meters for the Y.P.F., and 671,788 cubic meters for private companies.

The export-import balance continues to grow more unsatisfactory for Argentina. While the reason behind the chartering of the Y.P.F. was to build up a group of state works that would ultimately render Argentina self sufficient in the matter of petroleum requirements, imports of fuel oil and petroleum consistently have increased. For example, imports of fuel oil increased from 169,164 tons during the first quarter of 1936, to 209,494 tons during the first quarter of this year. Crude imports rose from 111,261 tons in the first quarter of 1936 to 126,710 tons during the first three months of this year.

"La Prensa" voices the fear that it may be as much as 30 years, the way things are going, before the country's production capacity will be fully utilized.

An indication of the production trend of the private companies and Yacimientos Petroliferos Fiscales for the first six months of 1939 and for the first six months of this year is shown in an accompanying table.

If Argentina can produce as much oil in the last half of this year as it did in the first half, the country will recover 3,142,362 cubic meters, which will represent a substantial increase over that produced in 1939. Indications are that Yacimientos Petroliferos Fiscales will account for about 1,829,504 cubic meters of the estimated total, whereas private companies will account for something less than 1,312,858 cubic meters.

Production of the Y.P.F. during 1939 amounted to 1,625,204 cubic meters, derived from the following districts: Comodoro Rivadavia, 1,316,931; Plaza Huincul, 101,862; Salta, 78,013; and Mendoza, 128,398 cubic meters.

During 1939, state-operated Argentine refineries recovered the following: 462,735 cubic meters of motor oil; 20,824 cubic meters of other industrial fuels, including aviation gasoline; 113,007 cubic meters of kerosene and tractor oil; 921,411 cubic meters of fuel oil and Diesel oil, and 47,768 cubic meters of lubricating material.

Incidentally, it is possible that Yacimientos Petroliferos Fiscales intends to attempt to remedy the deficiency in domestic production, for announcement has been made that the capital of 533,100,000 pesos at the end of 1939 will be increased by addition of 15,800,000 pesos out of profits. This will leave 6,900,000 pesos for increasing reserves of the corporation and 10,000,000 pesos for dividend distribution to the government.

Of the 45,300,000 pesos spent for materials by Y.P.F. during 1939, local purchases amounted to 9,500,000 pesos; those from Europe (including 8,500 000 pesos of material obtained from Germany) amounted to 14,500,000 pesos, and purchases from the United States amounted to 21,100,000 pesos. Y.P.F. bought 6,900,000 pesos worth of material from the United States in 1938.

Argentine Crude Production

(Figures in Cubic Meters)

	First 6 Months 1939		First 6 Months 1940		Totals First 6 Months	
Producing District	Y. P. F.	Private Companies	Y. P. F.	Private Companies	1939	1940
Commodoro Rivadavia	650,537	520,055	657,256	522,680	1,170,592	1,179,936
Mendoza	38,766	1,030	149,172	.....	39,796	149,742
Plaza Huincul	52,893	50,466	58,226	50,460	103,359	108,686
Salta	35,910	100,237	45,528	83,289	136,147	132,817
TOTAL	778,106	671,788	914,752	656,429	1,449,894	1,571,181

German Paper Cites Near East Oil as Middle-Europe Reserve

"Rich petroleum fields of the Near East [Iran, Iraq and Arabia presumably are referred to] with a 1938 output of about 15,000,000 tons, practicaly all of which was exported, may be considered a natural reserve of Middle [Nazi-controlled] Europe, especially as British influence in the Near East is seriously threatened by the course of the war," says a recent edition of Essener National Zeitung.

The foregoing statement occurs near the end of an analysis purporting to show that the continental economy of Europe can be made self-sufficient as regards petroleum and its products after the Reich's final victory over the western powers.

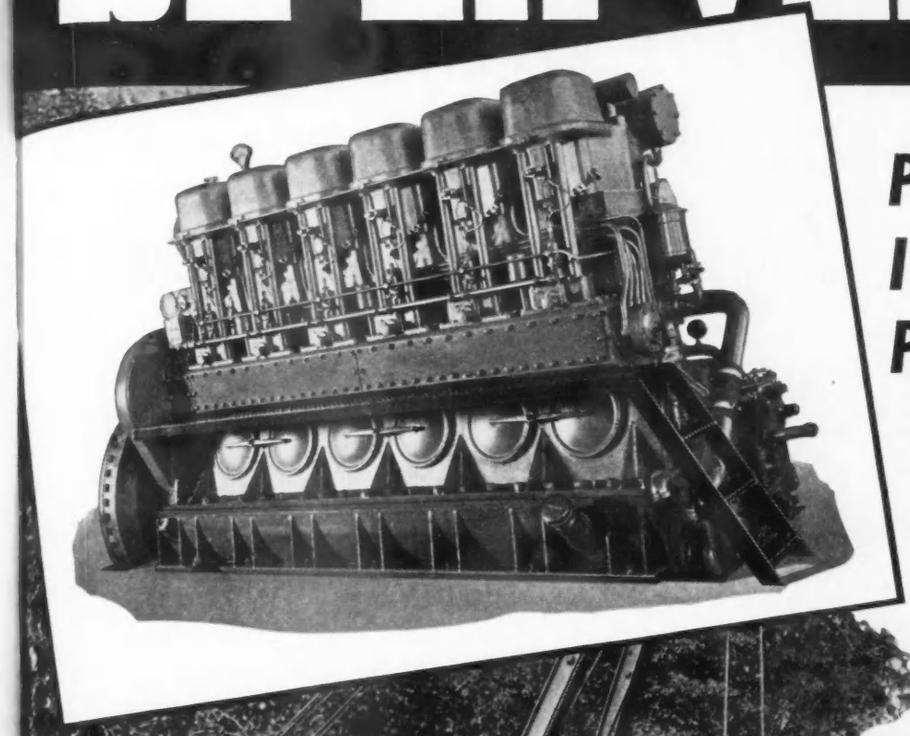
In explaining how the petroleum self-sufficiency will be brought about by the Reich, the Essener National Zeitung pointed out that the mineral oil consumption of Middle Europe, exclusive of France and Spain and European Russia, is estimated at 19,000,000 tons. In breaking down this figure, annual consumption of the Reich, Poland and Reich protectorates were lumped at 7,900,000 tons; Italy, 2,800,000 tons; Switzerland, Belgium and Holland, 2,600,000 tons; Norway, Sweden and the Baltic states, 2,900,000 tons, and that of southeastern Europe, in which the National Zeitung included Turkey, at 2,900,000 tons annually.

The newspaper then goes on to say that the petroleum output of the above territory, including synthetic production, is estimated at from 9,500,000 to 10,000,000 tons annually, with Rumania constituting the greatest single contributor. This leaves a shortage of about 9,000,000 or 10,000,000 tons, or 50 percent of peace-time consumption of the territory.

Zeitung says, however, that there is no reason for separate consideration of the regions of Middle and Eastern Europe that are linked by neutrality and that, therefore, Russia should be included in the calculations. It says that Russia's production in 1938 was 29,300,000 tons; its consumption, 22,000,000; hence, Middle and Eastern Europe's consumption of 41,000,000 tons almost is supplied by production of 39,000,000 tons.

The Zeitung's inference that Russia has an exportable surplus of 7,000,000 tons annually available for Reich-controlled territory does not agree with figures of the United States Department of Foreign Commerce on Russian exports, nor does it find support in such figures as have from time to time been issued by the Moscow government. As a matter of record, Russian exports of crude have declined steadily during the past five years, due to phenomenal growth in domestic consumption, and there has been nothing like 7,000,000 tons exported from the Black Sea or other Russian shipping points for years.

DE LA VERGNE



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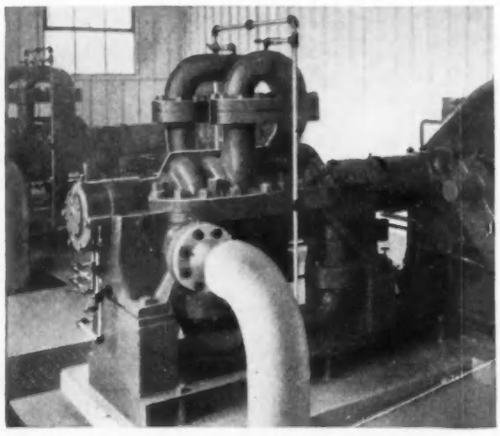

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Illinois

Good Well Adds Trenton To Centralia Pay Zones

Prospects for good Trenton formation production in the Centralia townsite pool were seen following swabbing of 300 barrels of oil in a 24-hour test of the formation at the Ames-Hicks, Brown 2 well. In Section 12-1n-1w, northwest of the city limits, the well was originally drilled to 4067 feet and later deepened to 4147 feet. Pumping unit was being installed and operators hoped to step daily production up to 400 barrels.

Meanwhile, a second Trenton test in Section 12-1n-1w, being drilled by Allan Barton on the Storer lease northwest of the city limits, was below 3275 feet after being shut down 24 hours for a fishing job. It is an old Devonian well being deepened from 2915 feet.

Tight Rosiclaire and McClosky cores have not been followed by production at Duncan-DeKalb Syndicate's western extension attempt to the North Noble field. Schilling C-5, CS½ SE NE 32-3n-9e, was swabbed through tubing, and operators plan a second swabbing test through casing in an effort to make a producer. Casing was set to the Rosiclaire at 2965 feet, and to the McClosky at 2990 feet.

Perry County's hopes for production at the G. H. Blankenship City Park 1 were shattered when Blankenship announced that the test had proven dry and was being abandoned at 2934 feet. The test, adjacent to the city limits, had encountered structures high during drilling, but no pay saturations were found.

Coring was expected to begin soon at Magnolia Petroleum Company's Severs 2, important test in W½ NE 22-2s-1e, Casner township, Jefferson County. Drilling has progressed rapidly. Three other operations are now active in the county.

The Texas Company has announced location of a new wildcat on the William Winters farm, north of Olney in the north Olney field, CE½ SW NE 27-4n-10e. A successful well here would probably see the revival of activity in the long dormant North Olney field.

Indications that Albion may be the next Illinois city to be the scene of a townsite drilling campaign, even ahead of Grayville, were seen following the completion of a McClosky well in the south Albion pool, Edwards County. Superior Oil Company's George Works 3, SW 18-2s-11e, came in as a flowing well to extend operations north in the direction of Albion, where leasing activity has already been under way for several weeks.

Meanwhile, two refineries in the Evansville, Indiana, area, immediately east of production in Illinois, continued to operate despite a lack of distress oil, although several of the small refineries of the Centralia area have been forced to close. A 5-cent-per-barrel increase in the price of Wabash River valley crude was responsible for the shortage of distress oil.

Kentucky

Henderson County Wildcat Shows New Tar Springs Pool

In Henderson County, ¾-mile south of Hebbardsville, J. Shoemaker, O. J. O'Connell et al's Cooksey Bennett 1, Section 23-P-26, appears to have opened a new producing area. On initial production test from the Tar Springs at 1506-08 feet, the test made 200 barrels in 16 hours. Just south of this test, Snowden and McSweeney were preparing to spud their C. Bennett 1.

In Hopkins County, southwest of Madisonville, H. L. Scott's Schwab 1, drilling at 300 feet, was a new wildcat start several miles from production.

In Edmonson County, 3 miles north of Brownsville, Kingwood Oil Company and Kentucky Natural Gas Company were drilling at 500 feet for Kyrock 1, another wildcat start.

In the Easton pool of Hancock County, W. E. Hupp, Owensboro, spudded Lain 1.

In Clay County, 7 miles southwest of Manchester, Globe Oil & Gas Company G. P. Kennedy 1 was drilling at about 1160 feet with cable tools for a test of the Devonian, expected at about 1700 feet.

Indiana

Locate Warrick Wildcat; Test In Vanderburgh Shows Oil

In Warrick County, a mile north of Yankeetown, Anderson Township, Yankeetown Development Company located John & Wilson Taylor 1, SW SW NW 10-7s-8w, a wildcat to be cable-tooled to 4000 feet.

In Vanderburgh County, Perry Township, R. A. Mitchell's George Steinkamp 2, NE SE NW 5-7s-11w, wildcat offsetting a dry hole, was being put on production test from Mansfield sand at 1021 feet for an estimated 25 barrels a day.

In Black Township, Posey County, H. K. Riddle and Hayes Drilling Company's Greathouse Island 1, NE NE NE 13-7s-15w, was preparing to set casing to test a show at 2200 feet. At 2880 feet, the McClosky proved dry on a drill-stem test.

In Jackson Township, Spencer County, Bowen Hoover's Harold H. Rothert 1, NW NW 1-5s-6w, initialed about 25 barrels in 24 hours from the Tar Springs at 724 to 747 feet, after a plug-back from McClosky at 1188 feet.

In the Luce Township field near Hatfield, Trio Oil Company's Rhoda Hodge 1, NW NE 5-7s-7w, was abandoned at 1055 feet.

In the Enterprise section of Luce Township, Spencer County, O. F. Kelly's R. Miller 1, SE SE NW 2-8s-7w, was coring in the McClosky at about 1800 feet. After reported shows in the Jackson and Barlow, the test is being drilled tight.

Apparently a failure through the Devonian was a closely watched wildcat in eastern Gibson County, Columbia Township, L. B. Jackson and Midwest Development Company's Barthold-Sampley 1, NW NW NW 23-2s-9w. Starting at surface elevation of 467 feet, the Devonian was topped at 3190 feet, and at last reports the test was drilling with no shows at 3338 feet.

In Randolph County, E. G. Henderson's Edward Warren 1, NE NE 16-19n-15e, was abandoned after acid at 1167 feet. In Sullivan County, Hamilton Township, Thomas B. Scott's Bonnie and Myrtle Mattix 1, center SW NE NE 29-8n-9w, was abandoned at 1220 feet.

Forest City Basin

Another Producer Completed In Falls City Field

Pawnee Royalty Company completed Bucholtz 1, C NW SW 17-1n-16e, Falls City pool, for 387 barrels per day. Hunton lime was topped at 2217 feet and drilled to 2232 feet. Pay was treated with 500 gallons of acid. This producer is the first commercial well in Nebraska to qualify for the state bonus of $15,000.

One-half mile east of production in the Falls City pool of Richardson County, Nebraska, R. L. Campbell et al's Schock 1, SW SE NE 20-1n-16e, gave promising shows of extending that area after coring good saturation in Hunton lime at 2244-49 feet. Casing was cemented on top of pay and plugs will be drilled over the weekend. Between this test and the Sibbernsen producer, Skelly Oil Company's Davidson 1, SW NW NE 20-1n-16e, was nearing the pay around 2050 feet. These tests, if productive, will be the fifth and sixth producers for the pool.

Pawnee Royalty Company's Keim-Workman 1, C NE SE 18-1n-16e, is pumping 450 barrels of fluid daily, of which 65 percent is water.

Two new tests were rigging up in Caldwell County, Missouri, surrounding the recent gas strike by O. M. Evans and Skelly Oil Company. O. M. Evans has machine at Arnote 1, SEc 36-55n-29w and A. W. Hutchins was spudding at Fowler 1, NE SE SW 36-55n-29w. Robert Wells & Sons of Richmond have drilling contracts. Two gas wells have been completed, Arnote 1, SW NE SW 25-55n-29w, for 4 million feet at 485 feet and Arnote 2, C NE NW 36-55n-29w, for 3½ million feet at 410 feet.

E. Williams and others spudded a wildcat in Carroll County, Missouri at Tom Hiatt 1, SEc 7-52n-22w, but shut down operations at 300 feet for casing.

Five tests were going in Johnson County. Sagamore Oil and Gas Company's Hammer 1, SEc SW 33-13-22e, gauged 150,000 feet of gas at 398 feet in sand.

T. Goff et al's Nies 1, C NE SW 3-13-21e, Douglas County, was completed for 250,000 feet of gas at 700 feet. S. W. Forrester et al's Altebernd 1, CSL NW 35-12-20e, topped Mississippi lime at 1105 feet and drilling below 1500 feet. Same operators and others, Ice 1, SWc SE 9-14-19e, was making hole below 1000 feet.

Kansas

Barton, Ellis, Butler and Stafford in Limelight

Imo Oil and Gas Company et al's Eveleigh 1-A, CEL SW NE 3-18-14w, approximately 4 miles southwest of Hoisington pool and northeast of Otis gas field, Barton County, pumped 32 barrels on a 4 hour test after loading the hole. This well offsets one which made a small producer from the Arbuckle lime but later was abandoned as non-commercial. Lansing lime was topped at 3216 feet and perforated at 3135-60 feet and 3180-91 feet. Treatment with 4000 gallons of acid stimu'ated what was previously thought but a small showing and staining. Pay will be re-acidized as plug failed to hold on initial job.

Vern McDaniel et al's Eckel 1, NW NE NW 7-27-7e, between Young and Reynolds-Shaffer pools in Butler County, opened Kansas City lime production. On official pumping test the wildcat made 40 barrels in 24 hours. Pay was logged at 2184-89 feet and 5-inch casing cemented at 2184 feet.

Dickinson County failed to get its initial commercial producer as Midland Oil Company and R. L. Mendenhall plugged Haines 1, SE SW SW 23-16-4e, 3 miles north of Lost Springs pool in Marion County. On test the wildcat pumped 13 barrels of oil and 12 barrels of salt water. Mississippi lime was logged at 2329-2411½ feet.

Shell Oil Company's Bean 1, SEc SW 21-23-12w, between Richardson and St. John pool, Stafford County, topped Arbuckle lime at 3839 feet and recovered a core with good porosity and bleeding some oil. Operators ran 4½-inch casing to 3840 feet and will drill plugs to test. Shell Oil Company and Atlantic Refining Company's Riley 1, SWc 28-23-11w, on a structural trend between Richardson and Zenith pool, Stafford County, topped Viola lime at 3648 feet and cored in to recover 2 inches of dolomite and 1 inch of cherty dolomite bleeding oil. It is deepening below 3700 feet.

Cities Service Oil Company's Lehrling 1, NE SW SW 19-27-11w, 4 miles north of oil production in the south Cunningham pool, Pratt County, cemented 5-inch at 4489 feet after penetrating to 4529 feet. Plugs will be drilled over the week-end.

Black-Marshall Oil Company completed Hoffman 1, NEc SE 13-16-12w, West Prusa pool, Barton County, for potential of 3425 barrels daily. Pay is Arbuckle lime at 3303-04 feet, topped at 3301 feet and treated with 500 gallons of acid.

Champlin Refining Company's Hadley C-1, CNL NW NE 20-11-17w, three-quarters of a mile northwest of Bemis pool, Ellis County, acidized Arbuckle lime at 3391 feet. This semi-wildcat established a potential of 2024 barrels and may prove the link between Burnett and Bemis pools. Deep Rock Oil Corporation extended Zenith pool, Stafford County, at Henry 1, C E½ SE SW 3-20-11w, making physical potential of 2968 barrels daily. Depth is 3799 feet in Viola lime.

L. H. Wentz abandoned Sebesta 1, C N½ SE NW 6-16-10w, at 3366 feet, ten feet in the Arbuckle lime. This semi-wildcat is in the Stoltenberg area of El'sworth County.

R. E. Hess and Son defined Bow Creek pool, Phillips County, when Donaldson 1, C E½ SE NE 25-5-18w, a south offset to the discovery which rated 827 barrels daily, was abandoned at 3155 feet. Lansing lime was topped at 3110 feet.

V. C. Vollmar and Simpson Oil Company et al's Hahn 1, C E½ SE NE 10-22-13w, Stafford County, was dry and abandoned in Arbuckle lime at 3783-90 feet.

Shallow gas production was opened in Douglas County, Northeastern Kansas at T. Goff et al's Nies 1, C NE SW 3-13-21e, gauging 250,000 cubic feet per day on completion. Hole is bottomed at 700 feet.

Oklahoma

Open New Hughes Gas And Kiowa Oil Areas

Loual Drilling Company completed Jackson 1, CSW NW 24-9n-9e, wildcat in Hughes County and northeast of Fuhrman area, for 4,000,000 feet of gas to open a new Booch-sand pool. Pay was topped at 2435 feet and hole bottomed at 3303 feet in dry Cromwell sand. Plug was set at 2575 feet and 7-inch pipe run to 2520 feet.

Bud Lewis opened Arbuckle-lime production 1½ miles southeast of Hobart pool, Kiowa County, at Wooten 1, SEc 28-7n-17w, estimated at 20 barrels per day. Pay was topped at 893 feet, and 7-inch casing cemented at 892 feet. Hole was bottomed at 955 feet. Two upper shows, not tested, were encountered in lime and granite wash at 657-66 feet and in conglomerate at 665-833 feet, with a good show at 775 feet.

Norbla Drilling Company and Oklahoma Natural Gas Company completed Osage 1, NEc NW 25-22n-9e, 1½ miles west of Wildhorse district, for a pumping potential of 105 barrels of 38-gravity crude. Arbuckle lime at 2423-49 feet was acidized with 4000 gallons. Skelly Oil Company was drilling Osage 1, SWc NW 28-22n-9e, wildcat south of East Hominy pool. Continental Oil Company's Osage 1, SWc NE 27-24n-7e, south of Naval Reserve pool, was below surface pipe.

Wilcox Oil & Gas Company's Murphy 1, NE SE SW 7-14n-6e, between Sac-Fox and Davenport pools, Lincoln County, topped Prue sand at 3190 feet and based pay at 3310 feet with hole bottomed at 3320 feet. A light shot brought only a small amount of oil and water into the hole, and a 200-quart shot was lowered to break the hard, tight sand.

Sun Oil Company was plugging back Cook 4, SW NW SW 1-14n-3e, Chandler pool, Lincoln County, to the new Oswego-lime horizon recently opened by Magnolia Petroleum Company at Ross 10, SE NE SE 2-14n-3e, which flowed 250 barrels daily through choke. Pay is around 3955 feet.

Champlin Refining Company's Kunkel 1, CE½ SE NW 23-23n-6w, Enid pool discovery in Garfield County, after reacidizing with 10,000 gallons, flowed 157 barrels of oil and 42 barrels of water in 24 hours. A successive run gauged 178 barrels of oil with 78 barrels of water and drilling fluid. Pay zone is Mississippi lime, topped at 6070 feet and based at 6600 feet, but plugged at 6190 feet. Crude is 40.4-gravity. Tubing was set at 6100 feet. Flow decreased to 120 barrels of crude with some water on later gauge.

West Texas

Two Small Shallow Wildcat Wells Deepening

M. & M. Drilling Company's Bouscaren 1, which extended the Soma shallow pool, Western Crockett County, one mile north last month with a flow of 50,000,000 cubic feet of dry gas at 1512 feet, was drilling with tools at 1545 feet. Show of oil was logged in sand at 1521-32 feet. This outpost entered the Yates section at 1371 feet, with an elevation of 2871 feet, giving it a higher structural position than three previous oil completions in the Soma sand. Several horizons in the Yates are prospective sources of production, while the underlying Permian lime series also offer possibilities. J. K. Hughes Oil Company's Shannon 1, 1½ miles north of Bouscaren 1, was drilling at 750 feet. Henry Schooler et al's Noelke 1, ½ mile west of the Soma discovery, is showing for a small gasser after trio of nitro shots at 1400-1530 feet; 1215-80 feet; and in the Soma pay topped at 1018 feet. Failure to make a producer from the latter zone is attributed to the sand being tight and broken with anhydrite and shale. Top of Yates was called at 835 feet with an elevation of 2351 feet.

Lower producing level is to be sought by Sinclair Prairie Oil Company's Wirt Davis 1, southeastern Ward County wildcat, that indicated a 25-barrel pumper from sandy lime, topped at 2375 feet. Deeper drilling resulted in hole full of water from sand at 2451-60 feet. Seven-inch pipe will be lowered to 2469 feet, total depth, to exclude the water. Gulf Oil Corporation's Wristen 5, an apparent failure in the Ordovician, was idle late last week at 9049 feet.

Texas Pacific Coal & Oil Company and Seaboard Oil Company's Midland Farms Company 1-A, southeast Andrews County wildcat, cemented 7-inch pipe at 4643 feet to continue testing Permian saturation that has been showing small volume of oil with water while carrying open hole below 2965 feet. Top of pay was logged at 4850 feet, and the hole was plugged back to 4865 feet after encountering sulphur water at 4873-88 feet. Prior to landing the extra string of pipe, swabbing tests aver-

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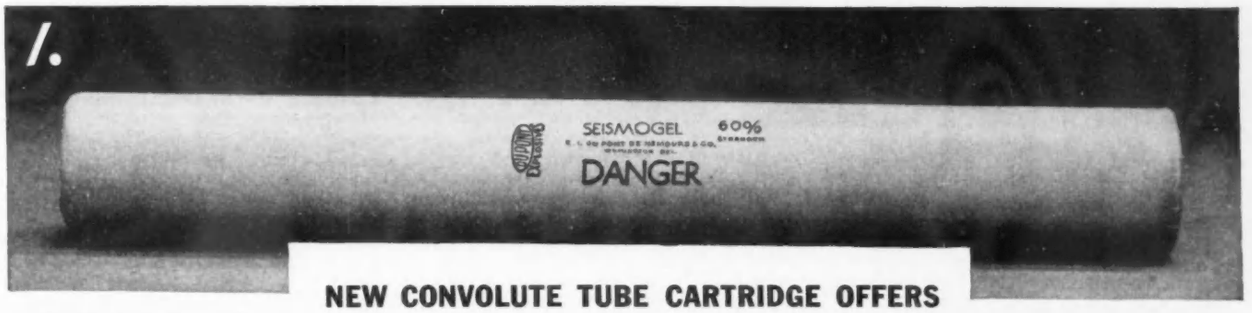

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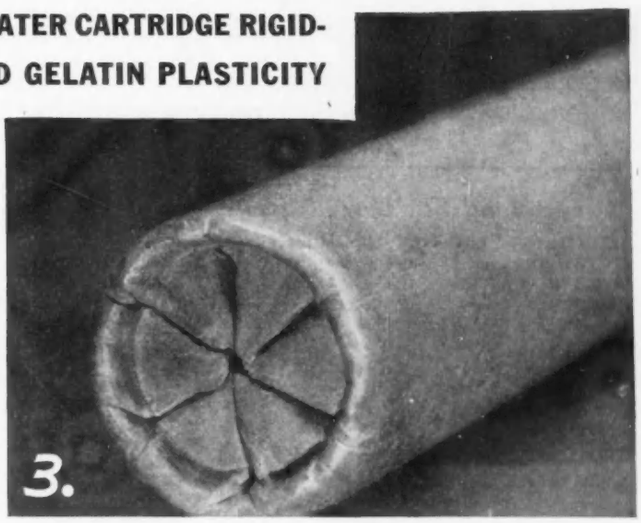

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Another group of tests are assured for the east portion of the Duggan field, Cochran County, through farmouts with drilling obligations obtained by the Osage Drilling Company, Tulsa. The company is completing two tests on earlier farmouts that will require a half-dozen tests. Devonian Oil Company assigned lease to the company on the north half of the north 178.2 acres of west third of the F. Moore 726-acre tract, League 53, and the east half of Labor 23, League 56, with the former retaining one-eighth over-riding royalty and requiring a test on each tract. Similar conditions apply to the assignment by Honolulu Oil Corporation of the west 69.9 acres of Labor 21 and the east 69.9 acres of Labor 22, League 56; and the south half of the north 178.2 acres of west third of F. Moore tract, League 53.

Stanolind Oil & Gas Company's Midland Farms Company 1-C, 1¼ miles east of production in the North Cowden field, Ector County, recorded low structural position in logging top of lime at 4540 feet, and was to make a drill-stem test at 4755 feet. Nominal saturation was noted at the latter depth. This outpost is scheduled to be carried to the Cleak Fork, or Holt horizon in lower middle Permian.

Production rights below 4500 feet are to be retained by Sinclair Prairie Oil Company in subleasing the south 224 acres, situated south of railroad, of T&P Section 31, Block 42, T-2-S, south end of the Foster field, to Ray R. Rhodes et al. The former is to receive one-sixteenth overriding royalty on pumping production. Two offsets are required immediately.

Sloan & Zook Company and Tom Sloan's Waples-Plattner 1, northeast outpost for the Waples-Platter pool, Yoakum County, resumed drilling with cable tools at 5080 feet after cementing 7-inch pipe at 4827 feet. This test will have direct bearing on the possible northeast production trend. Oil Development Company of Texas' Willard 1 expanded production in the Wasson field near the Gaines-Yoakum County line to the east in recording a potential of 1513 barrels after using 10,000 gallons of acid in regular pay at 4910-80 feet. Don Danvers et al's Jenny Allen 2, CNW NW Section 735, south offset to the only dry hole immediately near production on the north side of the Wasson field, flowed 210 barrels potential after using acid at 5050-5245 feet.

North Texas

Lower Bend Pay Level Adds Emphasis on Deep Operations

Discovery of a lower Bend lime pay level in the Ringgold pool, Western Montague County, and promising showing of a Bend prospect in Western Clay County places greater emphasis on deep operations in North Texas. The Ringgold development materially changes the crude recovery outlook for the 5-well pool, as the conglomerate pay in the upper section is comparatively thin, although completions have registered large potentials with one exception.

Fain-Mc Gaha Oil Corporation's Spring 1, west offset to the Ringgold discovery, originally temporarily completed for a small flow last June in regular pay at 5676-5702 feet, with about 7½ feet of conglomerate saturation, flowed wild when deepened with tools to 5794 feet. The flow was rated above 100 barrels of oil hourly, with gas volume estimated at 1,700,000 feet daily. Drilling line was cut, leaving tools in the hole, to curb the flow by closing surface connections. The well is slated to be killed to recover tools before making official potential gauge.

W. B. Omohundro et al's Seay 2, northwest corner of the Ringgold discovery site, is a recent completion, having flowed 340 barrels of 47-gravity oil in 4 hours through open tubing from conglomerate at 5662-79 feet. The well is bottomed in hard lime at 5680 feet. Top of Bend was called at 5626 feet, or 8 feet lower sub sea than the above producer. South offset to the discovery has rigged up. British-American Oil Production Company's Martin 2, west offset to the most northerly producer, was drilling at 5520 feet, and Gulf Oil Corporation's Worsham-Spring 2, an offset, was drilling at 1900 feet.

Western Clay County's deep prospect involves H. M. Horton and Pete Wiggins, Jr.'s Howard 1, Block 31, J. T. Belcher subdivision, that was drilled on geophysical information plus the fact that it is on general strike between the Halsell and Burns-Browning pools, which produce from the lower and upper Strawn, respectively. Howard 1 logged saturated lime, with shale breaks, at 5460-81 feet. Initial drill-stem test failed, but second try with packer at 5461 feet yielded 40 feet of oil-cut mud with gas blow. Top of Bend was recorded at 5458 feet, being 10 feet higher sub sea than the single failure in the Halsell pool, 2 3/4 miles to the northwest, and 153 feet higher than Staley Oil Company's Percifield 1, 2½ miles east and a failure in the Ellenburger at 6185-6280 feet. Half-interest in Howard 1 and the supporting 1322-acre block was sold to Phillips Petroleum Company last April for $25,000, payable upon the completion of 5500-foot contract. This depth obligation will be fulfilled before resuming efforts to make a producer from the Bend.

Upper Strawn production proved recently on the south end of the Walnut Bend field, Cooke County, registered natural flow comparable with the two lower pays when Sinclair Prairie Oil Company's McGeorge 15, east offset to the first completion in the new zone, flowed 528 barrels of oil through casing in 24 hours from sandy-lime at 4113-24 feet. Southeast extension was given the area when the company's McGeorge 14 swabbed and flowed 349 barrels oil in 13 hours from casing perforations at 4876-82 feet. Lower Strawn pay at 4965-90 feet indicated a commercial pumper.

Sinclair Prairie Oil Company's Doty 2, southwest edge test for the Bonita pool, Montague County, failed to encounter pay in drilling 1112 feet into the Ellenburger dolomite to bottom at 6975 feet. The hole has been plugged back to the Bend zone, which proved dry in the 5200- and 5400-foot regular oil levels, and rig moved off. The company has cemented 690-foot strings of surface pipe on Howard 3 and Lee 2, while rig is up for Bonita West Unit 1. Magnolia Petroleum Company's Gilbert 3 was drilling at 3120 feet. E. C. Norwood and A. R. Dillard's Holland 1, mile northeast of the townsite, was drilling at 2850 feet, involving the first attempt to expand the 7-well pool any appreciable area.

Absence of water in the Strawn and thick section of Bend, both of which registered favorable oil showings but subnormal on porosity, has enhanced the production prospects of Walter Gant et al's Will Laird 1, Southwestern Montague County wildcat. The test was drilling shale at 6320 feet, having logged this formation near the 6000-foot level. It will likely continue to the Ordovician, before casing is run for a series of production tests. Britt Cranfill-Rogers et al's McKay 1, northwestern Wise County wildcat and 2¾ miles south of the above prospect, logged Palo Pinto lime section at 1490-1785 feet, and was drilling at 2900 feet. These two tests now appear to be on the west flank of the Fort Worth Syncline.

Tom Owens and Larry Hults' Lee Tucker 1, Western Montague County wildcat, logged Palo Pinto lime at 2462-2785 feet, indicating high structural position for the area, and was drilling at 4790 feet on a 7500-foot contract.

Expansion of the Benton-Holmes pool, Eastern Montague County, to the east was assured when Mudge Oil Company's Custers 1, Jas. McKnight Survey, began filling with oil from intermediate Strawn at 3429-34 feet. This oil level apparently prevails only on the east side of the structure.

Ellenburger production is to be sought by W. H. Hammon et al's Womack 1, SEc 58½-acre lease, GC&SF Section 2, A-796, north central part of the K-M-A field, Wichita County, and was drilling at 4200 feet. The regular Strawn pay section carried comparatively little saturation.

Sinclair to Continue As North Texas Buyer

Public denial has been made by Nelson K. Moody of Tulsa, president of Sinclair Prairie Oil Marketing Company, regarding rumors of the alleged withdrawal of the company as a purchaser in North Texas, particularly the K-M-A and Hull-Silk deep areas.

Moody's statement follows:

"There have been persistent rumors in the K-M-A and Wichita Falls areas to the effect that this company intended to withdraw from these areas as a purchaser of oil. We have also heard that this statement had been used by competitors to induce producers to sever their relations with this company and turn their oil over to other purchasers. We wish to say that these reports are absolutely without foundation and that Sinclair has no intention of reducing, withdrawing or limiting its purchases in these areas end."

Sinclair Refining Company supplemented its original pipe line system in North Texas in 1939 with a 66-mile 6-inch outlet in 1939 to keep abreast of the rapid development of the above two major oil producing areas, and paralleled the latter with an 8-inch early this year.

Southwest Texas

LaSalle Wilcox Strike Waiting on Storage

Storage was being awaited before making a final production test in H. R. Cullen et al's J. L. Washburn 1, discovery of the first crude production in LaSalle County and the first up-dip Wilcox sand oil field in South Texas. The operation is producing from perforations at 5417-25 feet, 1805 feet below the top of the Wilcox formation. The depth into the formation and the up-dip position of the sand, together with its location makes this one of the most important strikes in several years in this territory.

The wildcat, located in SW Section 67 and 8 miles southwest of Fowlerton, originally was carried to 8300 feet, but twisted off drill stem. The hole was plugged back and casing landed about 5590 feet to test five sands in the Wilcox group which showed producing possibilities on electric log. A zone at 4740-4804 feet previously had shown gas and another at 5415-30 feet showed oil.

On first completion attempt, the well was swabbed and headed oil at the rate of 15 barrels per hour. Fluid column rose 4800 feet, but the gas volume remained low. While testing through the open tubing, the well made largely 40.5-gravity crude, but did show some brackish water. This indicates that the operation may have to be pumped.

The wildcat was drilled in the center of a block of nearly 20,000 acres worked by a radio beam type of geophysical equipment. What other exploration was resorted to prior to the drilling of the test is unknown.

Wildcats in Victoria, Jim Wells and Jackson Promising

Victoria, Jackson and Jim Wells counties had wildcats at the testing stage which promised to lead to new pools, while San Patricio and Nueces counties reported completion of major extensions.

The A. M. Clare League, six miles north of LaWard in Jackson County, was looming as a possible strike as Barnsdall Oil Company was testing Tom Prichett 1. The well had cored a sand and shale series with oil and gas showings and ran a drill-stem test which failed. The well was being cored ahead. The sand zones were at 5185-96 feet, showing gas and at 5208-12 feet and 5235-41 feet, both showing oil. The wildcat is in the northwest corner of the south one-half of a 400-acre tract.

In the same county, Magnolia Petroleum Company's Nannie B. West 98-A, on the west side of the West Ranch field, was still testing a possible new producing level at 6100 feet. The well encountered sand at 6161-77 feet and on first completion attempt through perforations 6170-74 feet made oil, then went to salt water. Salt water and oil were swabbed at 6164-70 feet when pipe was perforated the second time. A third perforation attempt was underway late in the week, but the exact point was not known.

H. R. Smith, Inc.'s Charles Thiel 1, slightly more than a mile southwest of the Orange Grove townsite in Jim Wells County, was preparing to make a squeeze job after flowing a small amount of fluid on first production test of the McNeill sand 4924-34 feet. The well made 75 percent salt water through ⅛-inch choke with pressures 250 pounds on tubing and 650 pounds on casing. This well is located on a farmout of The Texas Company, and is in the southwest corner of Block 25, Reynolds Survey. The Pundt sand at 4813-17 feet carried salt water, as did the Stillwell sand at 5309-23 feet.

Humble Oil & Refining Company's Duncan 1, Lot 20, Block 54, extended the East Flour Bluff field, Nueces County, 7800 feet southwestward when it flowed 58 barrels of crude per day through ⅛-inch choke. The well found the discovery sand at 6787-6800 feet, drilled to 7075 feet and plugged back.

Stanolind Oil & Gas Company's B. E. Ivey 1, one mile north of the Midway field in San Patricio County, tested through perforations at 5340-43 feet and flowed 126 barrels of fluid per day, 5 percent salt water and the remainder crude. The gauge was through ⅛-inch choke with tubing pressure 560 pounds and casing pressure 230 pounds. The extension placed considerable acreage in line for development. On another Stanolind outpost, three miles northeast of the field, a sidetracking job has been made to recore sand at 5216-22 feet where an oil and gas showing was found. The well is Norsworthy Production Company's McKamey 1, Block

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E, which was farmed out from the Stanolind concern. T. N. Davey's Hutto 1, just southwest of the Midway pool blew out, ran wild a short time and bridged over. It is awaiting orders at 6047 feet.

Humble Oil & Refining Company's E. D. Nave 1, wildcat 5 miles southwest of Bloomington and several miles east of the McFaddin production, may open a new area in Victoria County. The well is located in the M. J. Traviesa Grant. A drill-stem test at 5932-56 feet recovered 40 feet of mud and developed 415 pounds pressure in several minutes. The sand continued to 5959 feet and a new test was being run at 5952-59 feet. Several tests at previous levels recovered mud and oil.

First Balcones Fault Strike of Year Made

The first Balcones fault zone strike in South Texas for 1940 resulted in the completion of Wiegand Brothers' W. C. Hill 1, 1½ miles northeast and on trend with the Salt Flats field of Caldwell County. The test topped the Austin chalk about 2300 feet, at which point casing was set. The hole was then carried to 2703 feet in the Buda limestone and the well swabbed in through two-inch tubing hung at 2390 feet. It commenced flowing naturally, building up 220 pounds tubing and 560 pounds casing pressure while testing through ¼-inch choke. In 24 hours, the well put 216 barrels of 38.5-gravity crude and no water into the tanks.

New Starr Discovery Flows 25 Barrels Daily

A small oil producer has opened a new pool in Starr County 1½ miles due east of the Rincon producing area. Two sands gave forth gas and distillate and the third oil on initial tests. Further exploration is expected to follow.

Complete Oil Well Service, Inc.'s M. F. Yzaguirre, SE Section 227, flowed 25 barrels of crude per day by heads through ⅛-inch choke under 825 pounds tubing and 1350 pounds casing pressures. Perforations had been made at 4612-18 feet. The previous perforations had been made at 4896-4904 feet and 4716-26 feet, each resulting in distillate and gas. A sand topped at 4484 feet is expected to be the next to be tested.

The wildcat was drilled on a Sun Oil Company farmout. Complete Oil Well Service, Inc., Davis and Company and Transwestern Oil Company hold the major interests in the area.

The new Manila field of Jim Hogg County was given several setbacks with abandonments due to salt water in the 2600-foot Cockfield sand. Arkansas Fuel Oil Company's Allen 1, just southeast of the discovery, cored the sand at 2611-16 feet and made water. It was abandoned at 3006 feet.

Texas Gulf Coast

To Deepen Chocolate Bayou Discovery; New Test Staked

Chocolate Bayou, Brazoria County, was the point of chief interest as Glen McCarthy prepared to rework the discovery, Houston Farms Development Company 2, to complete at 100 feet deeper. Initially, the well made 58 barrels of 51-gravity distillate daily from Frio at 9865-75 feet. Production for the last three months of 1939 was 2000 barrels. Phillips Petroleum Company staked Triangle Development Company 1, HT&B Survey Section 4, ½-mile east of McCarthy's Andrau 1, 11,430-foot Texas' record depth producer later taken over by Phillips Petroleum Company. Andrau 1 extended production 1½ miles northeast of the discovery. If a well is made in the Phillips Petroleum Company attempt, Texas' deepest field will assume greater importance.

Glen McCarthy will test Munson 1, wildcat on Bailey's Prairie prospect, Samuel Carter Survey, Brazoria County, this week. A month was required to get a squeeze job above and below a promising sand at the bottom of the 11,860-foot hole, and to cut and pull tubing. As the deepest hole ever drilled on the upper Texas coast, and potentially the deepest producer in the state, the test has attracted much attention.

In a fourth attempt to find production in State 1-A-247, Red Fish Reef wildcat in Galveston Bay, Humble Oil & Refining Company swabbed salt water and 1 percent oil from 9058 feet. Retainer was set at 9057 feet for a test just above that point. The company revealed more confidence in the area than the released reports on 1-A-247 would warrant when it staked State 2-A-288 between Red Fish Reef and Seabrook, Chambers County, 3 miles southwest of the latter point. Location is for a 9500-foot test. The company has permits for 8 other locations in the area and has applied to the War Department for a pipe-line permit to the mainland, with so far the only tangible evidence of success a 1-barrel-daily flow of distillate from a 1-foot sand at 8815 feet. Gas flow was 40,000 cubic feet daily. The prospect, which is 10 miles southeast of Cedar Point field, is held mostly by the operator, with Salt Dome Oil Corporation holding scattered tracts.

General Crude Oil Company completed Davis 21, Kokernut Survey, Liberty County, at 6100-20 feet to mark another failure for deep north flank exploration on the Esperson Dome. The well was drilled to 7656 feet and plugged to the regular Jackson sand. Drilling was encouraged by gas and oil sands at 8300 feet which blew out and wrecked hole in Davis 9 and gave strong shows in Davis 20, completed as a gas well at 7055-7105 feet after drilling to 9734 feet. Operators found deep production at 7300 feet on the southeast flank in January, 1939, and a good gas sand at about the same depth in Davis 21. Davis 22, now drilling, is projected to 7500 feet.

Two wildcats reached contract depth without encouraging results. Laura C. Oil Company abandoned Hetmaniak 1, Grimes County test 3 miles east of Anderson, at 5750 feet with no shows on electric log. Wilcox was topped at 5313 feet, Cockfield

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at 2609 feet. T. A. Carlton, contractor, moved rig to Bollman 1, Mayo and F. W. Micheaux's test of the New Ulm prospect in Austin County. At Red Bluff, 3 miles north of Seabrook, Harris County, J. Newton Rayzor's Robertson 1, Morris Survey, was waiting on orders at 8012 feet. This is a tight well, with no shows nor markers reported. Frio was reported elsewhere to have been topped at 7193 feet. Rayzor was attempting to obtain support to deepen from Stanolind Oil & Gas Company, Atlatl Royalty Company and other dry-hole contributors. To the northwest, on the Green's Bayou prospect, Humble Oil & Refining Company was coring below 7450 feet in Furr 1.

East Texas

Trinity Test at Mexia To Run Casing String

Taylor-Lytle and Phillips' Reid 1, lower Trinity test on the northwest edge of the Mexia field, will run 5½-inch pipe for a production test after showing thin section of porosity in core at 6105-26 feet. It is bottomed in Travis Peak sandstone, topped at 5820 feet. The Pettit lime, encountered at 5330 feet, was considered the best bet for production, but did not register any appreciable saturation or porosity.

J. S. Harrold et al's Armstrong 1, Rusk County wildcat and 3 miles southeast of Henderson, was awaiting drill stem test after plugging back from 7506 feet to 7210 feet. Electrical formation survey indicated porosity at 7163-93 feet in Pettit, topped at 7140 feet with an elevation of 483 feet. The Travis Peak beds were entered at 7366 feet.

The Camp County wildcat producer of Harry Moss and Delta Drilling Company on I. E. Venters tract remained shut in the past week, having flowed 83 barrels of oil on the last gauge from casing perforations opposite lower saturation in the Travis Peak at 8000-42 feet. Projected developments for the area are being held in abeyance pending the issuance of field rules.

A wildcat location was staked last week in Cass County by Max Agress for Clark and Boice Lumber Company 1, Benjamin Hawkins Survey, 13 miles southwest of Linden. Contract was awarded A. Z. Skeeters of Kilgore, Texas.

A half-mile northeast extension of the Joaquin gas/distillate field in Shelby County appeared likely as Union Producing Company prepared to perforate casing for production test at Garrett A-1, William Moody Survey. Five and one-half inch casing was cemented with 575 sacks at 4995 feet. Production at Joaquin is from the Glen Rose lime.

Union Producing Company's first venture for the Glen Rose or Travis Peak production in the shallow Waskom field, Harrison County, appeared successful as its Karslake 1, T. D. Wilson Survey, showed 5,000,000 cubic feet of wet gas in a 13-minute drill-stem test from 6056-97 feet with ⅜-inch choke at top and ¼-inch at bottom. Pressure at bottom was 420 pounds and at top 200 pounds, 180 feet of drilling fluid appearing with the gas. Other Glen Rose and Travis Peak gas wells at Waskom are operations of Arkansas - Louisiana Gas Company (Cities Service) which opened these deeper producing horizons.

Louisiana Gulf Coast

Activity Resumes as Waters Recede; New Deep Sand

Most coastal Louisiana activity was resumed late last week as flood waters, which hampered or stopped many operations, receded. In districts in which flood stages were highest, notably in the vicinity of Crowley, Acadia Parish, it may be a week before crews are returned to the wells. Many crews and oil company water craft were used in rescue and relief work. There were no reports of appreciable damage to oil properties, either from the flood or the preceding hurricane which blew down a few derricks.

Verification tests of 1940 fields and a new deep sand at Bay St. Elaine held the most interest. Belle Chasse (Stella), Plaquemines Parish, 8½ miles southwest of New Orleans, was rediscovered by The California Company's Delta Minerals 1, Lease 5, which flowed at the rate of 490 barrels of 41.5-gravity oil daily on 2-hour gauge through 3/16-inch choke from 7485-90 feet. Gas production was 250,000 cubic feet daily, tubing pressure 1100 pounds. This well takes the area from the prospect class into which it lapsed after a long series of tests on the company's Delta Minerals 1, Lease 7, 2200 feet southwest of the recent test, failed to curb salt water in a 9900-foot sand which flowed pipe-line oil for several days. Materials will be moved to Delta Minerals 1, Lease 11, inactive location 2000 feet southeast of No. 1, Lease 7. Prospect was discovered by operators in 1938 with reflection seismograph, and is held by them and Vendome Petroleum Company, which drilled a 10,600-foot dry hole in May in the Lake Salvador area, to the west.

The Texas Company opened a third and deeper sand at Bay St. Elaine, Terrebonne Parish, completing State B-4 at 7635-7755 feet for 260 barrels of 32.9-gravity oil daily through 3/32-inch choke with tubing pressure of 2100 pounds, casing sealed off. Estimated ultimate recovery in this field, at 1,000,000 barrels after discovery in 1937 of 29-gravity oil in Miocene at 5573 feet and advanced to 4,000,000 barrels with discovery of 24-gravity oil in Miocene at 6325 feet, is now incalculable as the 23 tests drilled have been too shallow or too high on the dome to indicate possible extent of the 7635-foot sand. Company's B-3, Section 13-22s-17e, producing from 6325 feet, attempted to blow out at 10,513 feet to indicate deeper possibilities.

At Bayou Des Glaise, Iberville Parish, Humble Oil & Refining Company's Wilberts B-2, directional confirmation test of this 8731-foot 1940 discovery, was shut down by flood waters after testing in the discovery pay with poor results, deepening to 9100 feet, and plugging to 8700 feet to sidetrack drill pipe stuck in hole. At West Hackberry, Cameron Parish, Stanolind Oil & Gas Company was waiting on

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cement after setting liner at 9864 feet in School Land 22, possible producer in the 9855-foot sand found by School Land 21.

A possible new field appeared at South Lake Charles prospect, Calcasieu Parish, as W. T. Burton and Continental Oil Company's Mayo Realty Company 1 blew out from 10,710 feet. Operators controlled with heavy mud and were washing over drill pipe stuck on bottom at 10,850 feet. Electric log at 10,520-060 feet showed a 40-foot Frio gas sand with 8 ohms resistivity, 80 millivolts porosity, confirmed by side wall cores.

Branch, Acadia Parish prospect, discovered by Humble Oil & Refining Company in 1934 with reflection seismograph, and tested in May by that company's Meche-Leger 1, 10,000-foot dry hole in Section 83-8s-2e, will reportedly be drilled by I. N. Pharis, who is expected to make location ¾ mile north of Meche-Leger 1 on a farmout from the company. Pharis has 1200 acres in the area and has sold to Atlantic Refining Company, Union Sulphur Company, Superior Oil Company and Amerada Petroleum Corporation to support the test.

Magnolia Petroleum Company may open a new sand at Iowa, Jefferson Davis Parish. Company was testing at 8300 feet in Waite 9, old producer drilled deeper. If opened, the sand will be the eleventh in the 10-year-old field, the deepest at present being in Oligocene-Marginulina at 7027 feet.

Union Sulphur Company's Calcasieu National Bank 1-A, important wildcat on the South China prospect of Jefferson Davis Parish, was waiting on cement after a blowout while running casing. Liner has been set at 9490 feet, 35 feet off bottom.

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North Louisiana

Perforate for Test of Glen Rose in Caddo Parish Wildcat

J. M. Conner et al prepared to test the upper Glen Rose in a Caddo Parish wildcat, J. C. Williams A-1, SE NE 3-15n-15w, after perforating casing with 50 shots at 5120-35 feet. With elevation of 236 feet, the test topped Nacatoch at 1130 feet, Blossom (Ozan) at 1549 feet; Tokio at 2129 feet, Paluxy red beds at 2800 feet, picked up a stray anhydrite at 3995 feet, and topped massive anhydrite at 4665 feet. It is the second of a series of three wildcats being drilled in the area near Spring Ridge by these operators.

Leasing and geophysical exploration continue at a considerable volume just south of the Angelina-Caldwell flexure, center of interest last week being in La Salle, Grant and Winn parishes. One area of particular interest is the old shallow White Sulphur oil field in Sections 8, 9, 16 and 17-7n-2e, where 12 shallow wells of small capacity and yielding a heavy oil were compelted in 1927 by Smitherman & McDonald, and abandoned in 1932 after producing an aggregate of about 12,000 barrels from about 750 feet. Atlantic Surveying & Engineering Company, Dallas, recently moved a unit into this area for detail work.

James Quinn, of Monroe, Louisiana, plans to drill a wildcat soon on a block of acreage centering in Section 24-9n-6w, Grant Parish. C. F. Urschel et al of Oklahoma City, are negotiating for a block in 7n-4w. M. B. Beeson, of Stillwater, Oklahoma, has secured considerable acreage in 8 and 9n-4w, Grant Parish.

The Olla field, LaSalle Parish, did not record a new well last week, but a test five miles south of that field held interest. Peterson Petroleum Corporation's Tremont Lumber Company 1, NE SW 25-19n-2e, showed gas at 3160-63 feet, but operators squeezed off for perforating at 3036-40 feet for possible oil production.

Arkansas

Fouke Field, With Two Oil Wells, Has Third Failure

The third failure for the Fouke field, Miller County, which has two wells producing oil from the Paluxy, was recorded last week when Gray & Wolfe's D. L. Friday 1, Section 6-17-26, a mile east of the two producing wells, was abandoned at 3752 feet. While drilling, this operation logged a slight show of oil between 2980 and 3000 feet.

The abandonment left the Fouke field without an active operation. The two producing wells are owned by Standard Oil Company of Louisiana, which discovered the field. Only three tests are drilling at Magnolia, Columbia County, and one at Buckner in the same county. The new McKamie Smackover-lime gas/distillate field in LaFayette County has one active operation.

Mississippi

Pickens Area Well Shows Salt Water; Coring Deeper

Two tests of the Eutaw (Blossom) sand in the northern part of the Tinsley Dome field, Yazoo County, which will be one year old August 29, held chief attention last week, and another operation that showed salt water in the producing horizon of the Pickens field, also in Yazoo County, was watched closely.

In the north end of Tinsley Dome, Union Producing Company's Twiner 5, NE 1-10n-3w, waited on cement at 5496 feet after electric log was run and a drill-stem test made at 5454 feet showed 1460 feet of salt water and oil, with bottom-hole pressure of 1460 pounds. Recovery was in 11 minutes with ⅜-inch chokes at top and bottom. Previously, with same chokes in 10 minutes, recovery had been 15 feet of oil and 210 feet of oil and mud with tool set at 5255 feet after 15 cores were cut between 5363 and 5486 feet.

Slightly farther north, the same company's Powell 1, SE SW 36-11n-3w, cored oil sand at 5358-68 feet with streaks of shale and lime, and for the next 30 feet cored oil sand with shale streaks. A drill-stem test using ⅜-inch chokes at top and bottom, with tool set at 5330 feet, in 20 minutes showed 60 feet of slightly oily mud with bottom-hole pressure zero. Two new locations were made at Tinsley Dome during the week.

In the Pickens area, Yazoo County, Exchange Oil Company's Wilburn 6, NE NW 31-12n-2e, cored deeper after making a 12-minute drill-stem test at 4844-59 feet showing drilling mud and no oil. Later, in a core at 4920-30 feet, ten feet of fine-grained sand that was porous and had a salty taste was recovered.

Two wildcat locations were made. D. H. Williams, of Vicksburg, Mississippi, made location for a wildcat in Grenada County, Connecticut Life Insurance Company 1, NE NW SE 28-23n-5e. In Yazoo County, Petroleum Exploration Company, Sisterville, West Virginia, will drill a 6000-foot test, L. E. Vandevere 1, in SW SE 25-13n-1w.

Five wildcat tests were abandoned in Mississippi, three in Madison County, one in Neshoba County and the other in Yazoo County.

Alabama Activity

Geophysical exploration is increasing in Alabama. The Carter Oil Company has a seismograph unit in southwestern Conecuh County. Exchange Oil Company has a unit in southern Clarke County. Gulf Refining Company has one or more units working in Baldwin County, east of Bay Minette, and Sun Oil Company has a gravimeter unit working in Baldwin and Washington counties. Thompson and Westbrook are filling in acreage in a block of 760,000 acres under lease in northeast Escambia County, southeast Conecuh County and western Covington County. Humble Oil & Refining Company continues to lease in southern Alabama counties and northern Florida counties, where its holdings now are said to total approximately 1,500,000 acres.

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Michigan

Clare County Wildcat Flows 1269 Barrels in 21 Hours

Sun Oil Company's McKenna 1, CS½ SW SE 15-19n-3w, Hamilton Township, Clare County, wildcat drilled on subsurface data and a number of distant deep wells, flowed 1269 barrels of oil the first 24 hours from Monroe dolomite at 3753½ feet. It is the biggest natural flowing discovery drilled in Michigan in more than two years and ranks as the year's most important development.

Second 24-hour gauge checked 1503 barrels, and at the end of 74 hours the well had averaged 62.2 barrels per hour. It was flowing through 5-3/16-inch casing set with a perforated nipple in a packer at 3750 feet and with tools in the hole. Tools and a 2-inch lead line to storage tanks provided the only back pressure on the first 74 hours of testing, but operators announced intentions to cut production back to 500 to 700 barrels after installing a separator. Fear of losing the packer seat delayed any attempt to apply backpressure direct at the control gates.

Test first showed oil saturation at 3751 feet on August 5 in the top of the Monroe dolomite section. Top was established at 3748 feet. At 3751 feet, it swabbed 60 barrels oil in four hours on August 9 and developed flow production of 62 barrels per hour the following day when deepened to 3753½ feet. Gravity of oil was not certain. First tests showed 37.2 from samples of the first pay, but a sample after deepening showed 39.5. The latter compares with Buckeye-grade crude, but is slightly lower than Freeman grade, produced from a correlating formation. Crude from the discovery has a sulphur yield about equal to Freeman grade.

Simrall Corporation, Mt. Pleasant, affiliated with Michigan-Toledo Pipe Line Company, is purchasing the crude. Temporarily, oil is being trucked to the company's Buckeye station, 15 miles southeast, where it can reach Mt. Pleasant, Alma and Toledo refining markets by pipe line. Simrall Corporation could tie the Hamilton district into its main system by construction of 15 miles of new line.

The discovery has caused wide speculation. McKenna 1 was practically flat on formations with Sun Oil Company's Switzer 1, CN½ NW NE 26-19n-3w, Hamilton Township, a mile southeast. Up to the last minute, McKenna 1 appeared to be confirming geological opinion that the Hamilton high would be from two to four miles northwest of the well.

Geological Theory

To some geologists, the discovery added further confirmation of a growing theory that in the Northern Clare, Missaukee, Osceola and Wexford districts, besides structure, a complete thinning or absence of the Dundee lime section is necessary for production. The Switzer test, dry in the Dundee-Monroe, had more than 45 feet of lime below the Bell shale. McKenna 1 went directly out of the Bell shale into dolomite and production. In the Temple pool, 20 miles west, production is from dolomite at the contact with the Bell shale, and on the flanks of the field, the thick section of lime is present but the dolomite is dry.

This situation, in a large measure, cancels out value of the shallow marker formations, which often give no indication of this thickening or thinning of the lime at the base of the Bell shale. Geological opinion is still far apart on theories and conclusions.

Sun Oil Company, which entered Michigan in 1926 with the first Saginaw boom and which has for the past two years set the pace for all companies in wildcatting, has approximately 21,000 acres in the play opened by the McKenna against about 400 acres held by other companies. Acreage held by others includes a 160-acre lease in the southwest quarter of Section 10-19n-3w by Gulf Refining Company; south half of the northeast quarter of Section 10, and the SW SE of Section 10, held by Thompson Brothers; east half of the northwest quarter, Section 23, held by Freeman Oil Company, and the SE NW of Section 22, held by Smith Petroleum Company. Excepting the completely controlled Yost-Jasper field in Midland County, held 100 percent by The Pure Oil Company, this block is the most solid of any wildcat spread ever opened for development in Michigan.

In Hamilton Township alone, Sun Oil Company had drilled four deep tests from 3900 to 4200 feet, and two shallow tests, 1500 feet, prior to the McKenna 1. The company has been carrying from 800,000 to 1,000,000 acres of wildcat leases in the state as the leading lease-holding company.

McKenna 1 is the second important Michigan discovery in 1940, following closely on Rayburn & Majors' Yenior 1, Section 22-19n-3e, Arenac County, producing 2200 barrels a day from Dundee at 2879 feet. With both discoveries in the basin area, as contrasted to two years of nearly complete domination of development by shallow pools in Southwest Michigan, the basin now may again become the leading district of activity.

These officials of Sun Oil Company's Michigan division were in attendance when the company completed its McKenna discovery, a 1500-barrel Monroe dolomite well in a block of 21,000 acres: S. Sam Burman, general superintendent; Lowell Blackburn, assistant production superintendent; Richard Williams, Gladwin district office manager, and Rufus J. Blackburn, production superintendent.

Ogemaw Wildcat

Attempts to acidize a pay at 3921 feet logged in Weber Oil Company's State 1, Section 25-24n-1e, Ogemaw County wildcat, were abandoned. Test swabbed from 2 to 6 barrels natural per day. It may be carried deeper.

Gulf Refining Company's Bateson 1, Section 2-14n-1e, Bay County, first projected 9000-foot test in Michigan, was cleaning out at 3817 feet last week preparatory to pulling 8-inch and reaming. It originally was drilled to 4454 feet in 1939, and then plugged back to 3817 feet in the Monroe where it has produced from 18 to 30 barrels on the pump. New objective is the Trenton and St. Peters formations.

Charles W. Cook's Hayes 1, Section 17-1n-13w, Allegan County, a semi-wildcat flowed 95 barrels of oil and 15 barrels of water after acid from Traverse lime at 1316 feet.

Arkansas Permits

Two drilling permits were authorized last week by the Arkansas Oil & Gas Commission, as follows: Columbia County, Lion Oil Refining Company's Dickens 1, CNE NW 16-18-22, and Union County, Marine Oil Company's Brown 1, NE NW NW 10-18-13.

California

Northern Limits of Rio Bravo Field Defined

The Superior Oil Company defined the northern productive limits of the Rio Bravo field, Kern County, with Riggs No. 1, Section 21-28-25, which found gray sand when it topped the Rio Bravo at 12,257 feet. The section continued to 12,302 feet. Bottom of hole is at 12,324 feet, where a core barrel was reported lost in the hole and the crew is now fishing. The barren Rio Bravo is interpreted as indicating a fault cuts across the northern portion of the structure from east to west. The formation was found at considerably greater depth than in other sections of the field where wells are normally bottomed at about 11,500 feet. Location is about ¾ mile northwest of the present productive limits of the field.

Speculative interest continues to follow developments in the R. E. Havenstrite wildcat test, Lincoln 1, Section 16-4-17, Newhall area of Los Angeles County. Last reports showed the well coring at 6465 feet in formation predominantly shale, with occasional streaks of silty oil sand. From 6036 feet, it cored approximately 30 feet of oil sand, and from that depth to present bottom cored intermittent shale streaks showing oil. The measures being cored may relate to the structure discovered by Barnsdall Oil Company, now known as the Newhall-Potrero field. It is believed that sufficient sand has already been cored to make a commercial producer, but that the operator's program now calls for a search for a heavy oil sand section at greater depth.

Performance of Thorley Oil Company's deep test in the Athens field, northern section, has proven dissappointing. Initial output was in excess of 350 barrels daily of 31.8-gravity oil from 250 feet of pay below 7850 feet. Following sharp decline in output subsequent to initial test, tubing was pulled for recompletion. Since recompletion, top production has been 192 barrels daily of 32-gravity oil, cutting 3 percent. Owing to thickness of sand body and character of oil, opinion prevails that the well should be a larger producer and its performance has led to belief that structural closure may be faulty.

In the Cole Creek field, 13 miles northeast of Casper, General Petroleum Corporation had another Shannon-sand well near completion. Company's 71-21-G, CNE NE NE 21-55n-77w, was coring at 4540 feet in the top of the Shannon for casing point for the 6⅝-inch production string. The company was testing through perforations in 11¾-inch at 4509-4539 feet opposite the Shannon sand in its 51-21-G, NW NW SE 21-35n-77w, discovery in the Lakota-Dakota sands, which recently was plugged back from these horizons from 8015 feet. The company's 7-22-P, NW SW SW 22-35n-77w, ⅜ mile south and east of production, on the P. C. Nicolaysen ranch, was grading location and digging cellar and sumps.

Extension of the Werts field was made by Sinclair-Wyoming Oil Company when Unit 14, NW SE NE 7-26n-89w, ⅛ mile southeast of production in the Tensleep zone, officially completed for 201 barrels per hour. Total depth is 6043 feet. The 7-inch production casing was set at 5742 feet, and the well was flowing through 2-inch tubing bottomed at 5997 feet.

Slim-hole rotary drilling was introduced to the LaBarge shallow oil and gas field, Sublette County, Southwest Wyoming, when Garretson-Nisely Corporation, contractors, were awarded contract for North LaBarge Oil Company's Government 4, CNL SE SW 28-27n-113w. The Texas Company's Government 1-F, SW SW NW 27-27n-113w, was spudding.

Rocky Mountain States

Deepened Salt Creek Field Test Makes Good Well

Deepening an old Wall Creek producer in the old Salt Creek field, 40 miles north of Casper, Stanolind Oil & Gas Company, unit operator, made an excellent completion in the Sundance sand. Unit 8-A, CNW NE 26-40n-79w, flowed 60 barrels initial through 3/32-inch choke on the 2-inch tubing. Production casing, 5½-inch, was set at 2949 feet and bottom was at 2957 feet. Well was still testing from the Third Sundance sand. It may lead to a drilling and deepening program of the Sundance reserve at Salt Creek.

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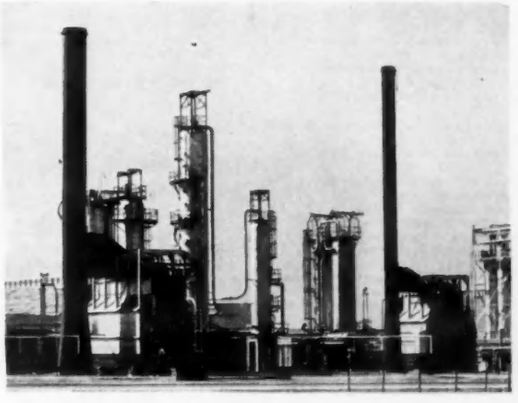

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UNITED STATES WELL COMPLETIONS

Arkansas

Company, Well and Location	Init. Prod. Bbls.	Depth
Miller County (Fouke)—		
Gray & Wolfe, D. L. Friday 1, 6-17-26	*	3752
Nevada County (Troy)—		
Berry Asphalt Co., Meadows 1, 4-14-120	35	1184
Sevier County (Wildcat)—		
R. A. McArthur, Bell Estate 1, 29-9s-32w	*	785

California

Company, Well and Location	Init. Prod. Bbls.	Depth
Fresno County (East Coalinga Eocene)—		
Standard, No. 22-17F	2965	8225
Fresno County (Kettleman Hills)—		
Standard, No. 334-29J	126	10,720
Kern County (Belridge)—		
Belridge Oil Co., No. 7-1	85	8249
Tide Water, No. 33	890	8525
Kern County (Cole's Levee)—		
Richfield, KCL-A 34-29	658	9473
KCL-A 14-33	1485	9120
Kern County (Edison)—		
Wood-Callahan, Kranz 1	125	3650
Kern County (Greeley)—		
Standard, KCL 12-10	3102	11,510
Kern County (McKittrick)—		
Fred G. Oil Co., Laymance 1	80	1377
Kern County (Midway-Sunset)—		
Union, Lakeview 9	24	2895
Kern County (Rio Bravo)—		
Union, Kernco 65-34	1396	11,475
Kern County (Wasco)—		
Standard, Mushrush 5	3055	13,130
Los Angeles County (Rosecrans-Athens)—		
Barnsdall, Rosecrans 12	166	7668
Los Angeles County (Seal Beach)—		
Continental Oil, Bixby 3	168	4775
Los Angeles County (Torrance)—		
Zenith Oil Co., Zenith 3	40	3527
Los Angeles County (Wilmington)—		
Barnhart-Morrow Cons., Wilmington Comm. 4	450	3725
Long Beach Oil Dev. Co., "W" 15	976	3962
Louie-Elliott Oil Co., Alexander 1	155	3600
Macson Oil Co., No. 0-55-1	85	3673
Pongratz Oil Co., Ronan 1	275	3565
Orange County (Huntington Beach)—		
Pacific American Oil Co., No. 7	15	3926
Standard, Bolsa 42	455	4783
San Luis Obispo County (Arroyo Grande)—		
California Fuel Oil Co., Elberta 3	75	3330
Ventura County (Ventura Avenue)—		
British-American Oil Prod. Co., Barnard 1	573	9490
Shell, Taylor 123	2022	7540

Illinois

Company, Well and Location	Init. Prod. Bbls.	Depth
Bond County—		
W. H. Dickerson, Wise 1, sw nw ne 19-4n-2w	*	2574
Arrow Dr. Co., Snow 1, ne c nw ne 33-7n-2w	*	1178
Clark County—		
Tex Harvey, Tyhurst 2, nwc sw se 26-9n-14w	*	700
Nims, Landers 1, csw se 11-12n-11w	*	1040
Clay County—		
Orchard Oil, Norton 5, nw ne nw nw 18-2n-8e	45	2994
Kingwood, Wolfe 1, sw c se 14-5n-7e	*	2955
Clinton County—		
Fotiades, Criley 1, nw ne nw 2-1n-1w	2088	2909
Hood 1, ne ne nw nw 2-1n-1w	1632	2913
Shell, Criley 17-C, e½ sw ne 2-1n-1w	2350	2895
Smokey Oil, Koelmel 1, e½ se ne 11-1n-1w	942	2916
Dick Duncan, Knolhoff 1, ne ne nw nw 11-1n-2w	75	1325
Max Pray, Knolhoff 2, w½ se nw 11-1n-2w	55	1325
Adams O&G, Copple 16, ne se sw 35-2n-1w	*	1380
Livesay & Kerwin, McAdams 1, ne se se 24-3n-2w	*	1300
Crawford County—		
Kidd & Thomas, Headley 1, sec sw sw 8-7n-11w	*	1610
Edwards County—		
Noah & Morrison, Barnes 2, sw ne ne 24-2s-10e	380	3127
Superior, Woods 5, ne nw nw 19-2s-11e	230	3112
Fayette County—		
Ohio, Williams 7, se nw se 36-6n-2e	60	1616
Texas, Wright 10, sw ne sw 31-6n-3e	196	1610
Philbrook 8, ne sw ne se 31-7n-3e	90	1580
Carter, Hoar 5, nw se se 8-7n-3e	168	1561
Algood 2, nw ne nw 2-8n-3e	192	1525
Durbin 7-A, ne ne ne 33-8n-3e	726	1569
Irl Rhynes, Koberlien 2, nw se nw 4-7n-3e	125	1561
Markham et al, Rhodes 5, se ne sw sw 18-7n-3e	203	1536
Lowry, Barnes 2, sw se sw sw 31-7n-3e	225	1567
Babcock, Rhodes 6, ne sw se 27-8n-3e	50	1593
Gallatin County—		
Ralph Halbert, Osburn 1, se se ne 29-8s-10e	*	2935
Coates et al, Green 9, nw nw nw nw 21-9s-9e	40	1782
Jasper County—		
Pure, Rotramel 1, cw½ sw se 8-5n-10e	617	2825
Hall 1, ce½ ne sw 17-5n-10e	1264	2825
Kermicle 1, ce½ se se 31-5n-10e	776	2843
Lawrence County—		
Kentucky Nat'l et al, Thompson 1, sw nw 18-4n-10w	¶0.81	1127
Marion County—		
Texas, Corbin 1, ne nw ne nw 5-1n-2e	500	3388
Hawkins-Johnson 1, ne nw ne sw 5-1n-2e	235	3406
Richardson 10, sw nw nw sw 5-1n-2e	360	3396
Richardson 11, sw ne nw sw 5-1n-2e	500	3415
Tate 21, sw ne nw nw 5-1n-2e	800	3378
Bell 2, sec sw sw 6-1n-2e	175	2340
Canull 21, cw½ se ne 6-1n-2e	661	3379
Johnson 18, cw½ sw se 6-1n-2e	210	2315
Johnson 19, se se nw 6-1n-2e	112	1870
Johnson 20, ce½ nw se 6-1n-2e	424	3395
Johnson 21, e½ sw se 6-1n-2e	395	3379
Johnson 31, cw½ ne se 6-1n-2e	290	3390
Richardson 9, ce½ ne se 6-1n-2e	286	3400
Murray 3, se nw sw 7-1n-2e	21	2133
Kleinschmidt 16, sw nw ne 28-2n-2e	403	3530
Friedrich 34, nec ne 30-2n-2e	*	3564
Williams 28, nw se se se 31-2n-2e	753	2250
Stonecipher 24, ne sw se sw 32-2n-2e	112	2317
Stonecipher 25, ne se sw se 32-2n-2e	252	2250
Southwestern O&G, Warfield 15, se sw sw se 5-2n-1e	525	2926
I. D. Lain, Dempsey 15, se nw ne sw 31-2n-2e	25	2035
Richland County—		
Pure, Kropp Cons. 1, cs½ nw se 6-4n-10e	*	2842
Gray 1, ne nw 7-4n-10e	226	2912
Wachtel 1, se nw nw nw 18-4n-10e	953	2961

[*Continued on next page*]

‡Summary of Drilling Operations in the United States, Week Ended August 17, 1940

	WELLS COMPLETED							*PERMITS FOR NEW WELLS				
	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total 1940	Total this Date 1939	This Week	Total this Month	Total 1940	Total this Date 1939	Year Total 1939
Alabama	.....	.....	.....	.....	.....	3	1	.....	.....	.....	.....	.....
Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Arkansas	3	1	.....	2	35	120	151	2	5	92	154	223
California	25	25	.....	.....	19,446	722	675	25	58	687	657	1,174
Colorado	.....	.....	.....	.....	.....	5	15	.....	.....	.....	.....	.....
Florida	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Georgia	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Illinois*	77	59	1	17	25,652	2,501	2,391	110	247	2,868	.....	893
Indiana	11	4	1	6	747	275	112	.....	.....	.....	.....	.....
Kansas	41	33	1	7	58,000	1,240	872	33	114	1,286	970	1,583
Kentucky	10	4	.....	6	470	204	409	.....	.....	.....	.....	.....
Louisiana	17	14	1	2	2,829	1,076	663	27	67	1,003	801	1,449
Michigan	18	9	.....	9	2,437	797	909	17	57	720	882	1,419
Mississippi	6	1	.....	5	726	120	7	.....	.....	.....	.....	.....
Missouri	1	.....	1	.....	.....	8	.....	3	3	3	.....	.....
Montana	1	.....	.....	1	.....	117	92	.....	.....	.....	.....	.....
Nebraska	.....	.....	.....	.....	.....	6	1	3	6	6	.....	.....
New Mexico*	11	9	.....	2	5,249	459	396	9	31	405	41	293
New York†	17	16	1	.....	50	671	357	.....	.....	.....	.....	.....
North Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ohio	24	10	8	6	33	563	580	.....	.....	.....	.....	.....
Oklahoma	40	24	4	12	2,014	1,373	1,332	59	124	1,185	1,328	2,059
Pennsylvania†	65	55	6	4	65	2,221	992	.....	.....	.....	.....	.....
South Dakota	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Tennessee	.....	.....	.....	.....	.....	8	.....	.....	.....	.....	.....	.....
Texas	195	126	11	58	58,914	6,668	6,329	215	556	7,491	6,779	10,269
Utah	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....
West Virginia	12	2	8	2	5	351	333	.....	.....	294	417	718
Wyoming	5	5	.....	.....	8,259	89	85	.....	.....	.....	.....	.....
Total this week	579	397	43	139	184,931	19,601	16,690	503	1,268	16,040	12,029	20,080
Total last week	596	438	32	126	221,285	19,022	16,148	379	765	15,537	11,656	20,080
Total this year	19,601	14,328	1,051	4,222	7,157,431	.....	.....	.....	.....	.....	.....	.....

* This tabulation includes those states where weekly data are available; figures for Illinois date from October 15, 1939; New Mexico from August 1, 1939. Data for Kansas, Missouri, Nebraska and New Mexico are first reports of new wells, rather than actual permits.

† Includes water-input wells.

‡ In keeping with the policy of THE OIL WEEKLY, all drilling operation data have been revised to include agreement with the Producer's Monthly for Bradford, Pa. and The American Petroleum Institute for California, with revisions in other sections where additional and more up-to-date information has been made available. This will account for any discrepancies between the figures published this week and those in previous issues.

United States Well Completions—*Continued*

Company, Well and Location	Init. Prod. Bbls.	Depth
Shelby County—		
Leroy Trulock, Lantz 1, nw se se se 36-13n-2e	*	1035
Wabash County—		
Leighty, Linterland 1-A, sw sw nw 8-1n-12w	*	1550
Linterland 2, sw nw nw 8-1n-12w	*	1575
Whatley, Fearheilly 1, ne ne se 28-1s-13w	*	2750
Kingwood, Bump 4, ne se nw 9-2s-13w	175	2429
Washington County—		
Magnolia, Gill Est. 6, ne nw sw 26-3s-3w	8	1297
Gill Est. 7, ne nw nw 26-3s-3w	40	1284
Rahn 1, se sw nw 23-1s-1w	376	1550
Gulf, Buhl 4, cw½ se sw 23-1s-1w	436	3150
Stanton 3, ne nw nw 26-1s-1w	320	1553
Shell, Brown 4, ne ne sw 23-1s-1w	229	1553
Wayne County—		
Pure, Hubble 6, cw½ nw sw 4-1n-8e	340	3126
Barth Cons. 1, cw½ nw se 5-1n-8e	1033	3140
H. H. Weinert, McPherson 6, se ne nw 3-2s-7e	840	3250
Rockhill, Twist 7, sw nw sw 33-2s-7e	*	5393
Dome O&G, Vaughan 2, sw se sw 26-2s-8e	800	3408
White County—		
Lavender et al, McCullough 1, sw se ne nw 20-3s-8e	7	3306
Sun, Greathouse 11, sw se sw 33-4s-14w	250	2920
Carter, Pool 6, nw sw se 24-6s-8e	50	2536
Fleming, Holderman 1, ne ne nw 13-6s-10e	*	2960

Indiana

Company, Well and Location	Init. Prod. Bbls.	Depth
Gibson County—		
L. B. Jackson et al, Keeton 1, nwc ne ne 15-2s-9w	83	1645
Lewis Production, Cooper 11, sw se nw 13-3s-14w	230	2499
Apex Dr., Skiles 1, swc nw ne 18-3s-13w	8	2575
Continental, Bozeman 9, nw ne ne 23-3s-14w	426	2863
Jay County—		
Donald Davis, Perry 1, se nw nw ne 17-24n-12e	*	1000
Posey County—		
Max Cohen & Ken Harris, Williams 1, sw nw nw 4-4s-13w	*	2807
Spencer County—		
J. N. Krieger, Heinzie 1, se se 6-6s-3w	*	565
Ky. Nat. Gas & Obins, Goodman 1, cne ne 32-7s-6w	*	965
E. J. Lambert, Hodges 1, nw nw ne 5-7s-7w	*	1055
H. M. Hunt, Chaplin 1, sec ne 5-8s-6w	¶0.79	375
Sullivan County—		
Clarence Hardin, Evans 1, nec se sw 28-8n-10w	*	857

Kansas

Company, Well and Location	Init. Prod. Bbls.	Depth
Barton County—		
Texas, Brown 1, ce½ se nw 20-16-10w	144	3338
Hammeke 1, cn½ nw se 36-19-12w	*	3404
I. T. I. O., Hoffman "B" 3, cn½ ne nw 7-16-13w	1539	3358
Gulf, Howard 3, cs½ nw sw 8-20-11w	3000	3302
Kasselman 2, cn½ se sw 23-20-11w (otd 3279 ft)	3000	3284
Butler County—		
Aladdin, Furman 3, nw sw se sw 8-23-4e	15	2025
Cromwell & Lewis, Roetz 1, swc 35-27-5e	*	3135
Adair & Morton, Baner 1, se ne ne 16-28-7e	*	2826
Simpson, Piper 1, sw ne sw 17-29s-4e	35	1891
Ellis County—		
Cities Service, Colahan 16, ne nw sw 24-11-17w	3000	3444
Wakefield, Burnett "E" 3, cw½ sw ne 1-11-18w	97	3471
Burnett 4, ce½ sw ne 1-11-18w	97	3590
Bay, Riddler "A" 4, cn½ se ne 12-11-18w	3000	3395
Stanolind, Staab 1, ce½ ne sw 17-12-17w	*	3822
Ellsworth County—		
Derby, Schepmann 2, cw½ se nw 16-16-10w	3000	3340
Herndon, Koloch 1, ce½ ne ne 18-16-10w	427	3405
Palmer et al, Stoltenberg "B" 1, cs½ se nw 27-16-10w	2700	3278
Continental et al, Baker 3, csl se ne se 21-17-8w	640	3265
Greenwood County—		
Weideman, Lewis "D" 1, nec se 26-27-8e	25	2510
Jefferson County—		
McLaughlin et al, Frazier 1, c sw ne 22-9-18e	*	1788
Marion County—		
Harwood et al, McNickel 1, nec sw 14-17-4e	*	2411
Enger Oil, Urshel 7, sw ne sw 21-21-5e	*	2300
McPherson County—		
Hartman et al, Swanson 2, cn½ sw sw 18-20-5w	51	3350
Crosbie, Briggs 1, cw½ se sw 20-20-5w (otd 3379 ft)	520	3387
Moulton et al, Briggs 3, cw½ nw sw 20-20-5w	3000	3374
Continental, Bornholdt 4, cw½ ne se 30-20-5w	3000	3382
Knackstedt 4, cs½ ne nw 30-20-5w	48	3358
Pawnee County—		
British-American et al, Belt 3, ce½ sw nw 13-20-16w	66½	3832
Pratt County—		
Skelly et al, Steffen "C" 1, cw½ se 35-27-11w	¶58.0	4168
Rice County—		
Continental et al, Pickerill "A" 6, ne se nw 24-18-8w	845	3203
McPherson Dr. Co., Patton "D" 1, nec 17-19-9w	695	3223
Rooks County—		
Mitchell Dr. Co., Veverka 1, cs½ se se 21-8-19w	1418	3435
Vickers, Tatkenhorst 1, ce½ ne se 10-9-16w	448	3208
Russell County—		
Coralena, Flickenger 1, cs½ se se 23-14-13w	265	3172
Texon, Hall 4, cse 26-14-13w	743	2873
Skelly, Ehrlich 1, cs½ sw sw 32-14-13w	1543	2915
Goetz 2, cw½ se nw 35-15-14w	732	3351
Phil-Han, Letsch 3, nw sec ne 34-14-13w	3521	2864
Shell, Batt "A" 5, nec se 35-15-14w	1176	3326
Stafford County—		
Transwestern, Banker "D" 1, ce½ sw se 10-24-11w	3000	3823
Stanolind, Sims 8, cn½ ne ne 11-24-11w	2909	3765

Kentucky

Company, Well and Location	Init. Prod. Bbls.	Depth
Breckenridge County—		
C. V. Guthrie, Robinson 1	*	750
Butler County—		
Wilson Bros., Smith 1	*	700
Daviess County—		
Sargent, et al, Ezell 1	335	1289
Master Oil Co., Richmond 6	90	1184
Walter Sargent et al, Cox 1	35	1727
Ankeny & Gibson, Shivley 3	10	1048
R. Hal Compton, Jackson 2	*	995
F. F. Gibson, Howard 2	*	1517
Ohio County—		
L. M. Steel Muffitt 3	*	819
H. H. Vickers, Baird 1	*	535

South Louisiana

Company, Well and Location	Init. Prod. Bbls.	Depth
Anse La Butte—		
Wynn Crosby, Republic 1	356	4743
Barataria—		
Carter-Perrin-Bryan, Rutley 2	290	8723
Westerfeld 1	243	8708
Bayou Blue—		
Markley-W. Crosby, Baiste Coop. 2	50	3695
Baiste Coop. 3	170	1601
Superior, Schwing 3	162	5100
Cheneyville—		
S. Richardson, Weil 14	341	5752
New Iberia—		
Texas, Bryant 7	97	3860
Lake Pelto—		
Texas, State 33	*	5345
Starks—		
Moore Lbr. Co., Fee 6	150	4517

North Louisiana

Company, Well and Location	Init. Prod. Bbls.	Depth
Caddo Parish (Pine Island)—		
Lloyd A. Farr, Stiles 6, 17-21n-16w	25	1034
E. A. Stiller et al, Stiles 4, 28-21n-16w	15	2401
C. J. Brown, Glassell 1, 25-21n-15w	15	1610
F. G. Holcomb, Simms 1, 3-20n-16w	*	1007
Stanolind, Slattery 15, 21-21n-15w	55	1568
Ouachita Parish (Monroe)—		
Interstate Nat. G. Co., Fee 100, 44-19n-3e	¶3.5	2209
Webster Parish (Cotton Valley)—		
Hunt Oil Co., Scott 2, 20-21n-9w	860	8722

Michigan

Company, Well and Location	Init. Prod. Bbls.	Depth
Allegan County—		
R. O. Malcolm, Button 1, sw sw sw 14-3n-12w	*	1670
Douglass Dev. Co., Crane 1, se ne se 17-3n-16w	*	1515
Charles W. Cook, Hayes 1, se ne sw 17-1n-13w	115	1316
James E. Flanigan, Brown 2, se ne ne 29-1n-13w	17	1378
Clare County—		
Sun, McKenna 1, cs sw se 15-19n-3w	1492	3755
Taggart Bros. Inc., Knight 34, sw sw 24-19n-6w	*	1660
Kent County—		
R. E. King, Huntley 1, se nw se 32-7n-12w	375	1830
Newaygo County—		
Taggart Bros. Inc., Thompson 2, nw nw sw 13-16n-11w	*	1450
Charles Hoffman, Wilde 1, nw sw ne 17-11n-14w	*	2080
Ottawa County—		
Welsh Oil Co., Pas 1, sw nw sw 34-5n-15w	*	1585
Stewart Oil Co., Vugteveen 1, se se nw 25-7n-15w	*	1700
John Newell, Masterson 1, sw sw se 23-7n-13w	190	1870
E. B. Strom, Nichol 4, nw nw ne 23-7n-13w	96	1858
Roscommon County—		
Gulf Ref. Co., State 1, ce se nw 36-23n-1w	*	1980
Van Buren County—		
Gratiot O&G Operation, Nutting 2, nw ne sw 21-2s-16w	130	994
Shelbow Oil Co., Starz 3, sw sw sw 21-2s-16w	10	1004
Bloomingdale Dev. Co., Decker 7, se sw se 7-1s-14w	12	1202
Smith Pet. Co., Fellows 2, ne sw sw 22-1s-16w	*	1064

Mississippi

Company, Well and Location	Init. Prod. Bbls.	Depth
Madison County (Wildcats)—		
Ralph A. Johnston, School Board 1, 16-11n-3e	*	5009
Walter G. Ray Dr. Co., Haffey 1, 7-10n-5e	*	5020
Stanolind, Higgason 1, 10-11n-5e	*	5009
Neshoba County (Wildcat)—		
J. P. Evans, Oliver 1, 18-9n-13e	*	4011
Yazoo County (Wildcat)—		
Kingwood, Shipp 1, 4-10n-1e	*	6067
Yazoo County (Tinsley Dome)—		
Union Prod. Co., Cesana 3, 18-10n-2w	726	4813

Missouri

Company, Well and Location	Init. Prod. Bbls.	Depth
Caldwell County—		
Skelly, Arnote 1, sw ne sw 25-55n-29w	¶4.5	410

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United States Well Completions—*Continued*

Montana

Toole County—

Company, Well and Location	Init. Prod. Bbls.	Depth
Wm. Hanlon et al, Merton Mortgage 1, csw se 6-37n-1w	*	2345

New Mexico

Eddy County—

Company, Well and Location	Init. Prod. Bbls.	Depth
Danciger O&R, Inc., Turner 7-A, cn½ ne nw 19-17s-31e	300	3442
Macy-Talmadge et al, State 1, ne se sw 16-17s-31e	67	3571
Nash-Windfohr et al, Jackson 13-A, sw se 12-17s-30e	225	3470
H. W. Martin et al, Gates 2, ne nw nw 23-18s-30e	*	3285
Gates 4, swc 15-18s-30e	*	3195
Lea County (Arrowhead)—		
Continental, State 9-J-2, csw ne 2-22s-36e	1704	3839
Lea County (Eunice)—		
Cities Service, Closson 2-B, cne ne 19-22s-36e	960	3820
Lea County (Mattix)—		
Trinity Dr. Co., Mattix 2, cnw se 10-24s-37e	144	3531
Lea County (Rhodes)—		
Anderson-Prichard, Morris 1, nec sw 27-26s-37e	325	3273
Lea County (Skelly)—		
Skelly, Sims 12, csw se 33-22s-37e	288	3680
Lea County (Vacuum)—		
Texas Co., State 2-U, c se ne 2-18s-34e	1236	4710

New York

Allegany County—

Company, Well and Location	Init. Prod. Bbls.	Depth
Walter J. McEnroe, Hoover farm, Bolivar	10	1630
Messer Oil Corp., Shaner farm, Bolivar	5	1364
Riley Allen Est. No. 1, Allen farm, Scio	7	1056
Albert Oil Co., Easton farm, Alma	7	1332
Hopkins, Short Bros. et al, Lafrone Clark farm, Independence	6	1047
H. W. Patterson, Black farm, Scio	5	882
C. H. Havens Est., Fee, Genesee	5	1391
Wightman & Conklin, Wetherby farm	5	1562
Belmont Quadrangle Dr. Corp., Herbert Clark farm, Independence	¶4.0	4479
Water Intake Wells		
Sloan & Zook, McDavitt farm, Bolivar	...	1263
Messer Oil Corp., Courtney Hollow farm, Genesee	...	1387
Ebenezer Oil Co., Herrick farm, Alma	...	1350
Lemont Oil Co., Pierce farm, Wirt	...	1365
Dick Oil Co., Cameron farm, Bolivar	...	1420
Bradley Prod. Corp., Monder farm, Alma	...	1266
N. V. Franchot, Reddy farm, Alma	...	1423
Bohne Bros., Helmhold farm, Wellsville	...	1333

Oklahoma

Beaver County—

Company, Well and Location	Init. Prod. Bbls.	Depth
World Petroleum, Kirton 1, cse se 23-3n-21e	*	3026
Caddo County—		
Rawlins, Headlund 3, sec ne 11-5n-9w	263	3891
Carter County—		
Gibson & Jennings, Mertens 3, ne nw se 20-4s-2w (otd 1939 ft)	125	1947
Vorrees 1, sw ne sw ne 20-4s-2w	168	2103
Coal County—		
Campbell, Dillard 1, cne nw 25-3n-11e	¶2	1610
Creek County—		
Sunray, Deer 1, nw ne ne 34-14n-7e	*	4071
Stekoll et al, Beidleman 1, sw nw sw 35-14n-10e	*	3324
Berry Bros., Ingalls 1, sw se se 24-17n-7e (otd 2900 ft)	6	2550
Greer, Morgan 1-B, nw nw sw 9-17n-8e	*	1525
Wolf Bros., Dixon 1-B, ne se ne 24-17n-9e	25	2342
Jackson County—		
Gulf, Eley 1, sw se se 10-1n-20w (otd 1520 ft)	8	1540
Kiowa County—		
Argo, Ratliff 1, se ne ne 19-7n-17w	198	1048
Lincoln County—		
Kemp, Newsome 1-A, sw nw se 26-17n-6e	¶2.5	1695
Malernee, Eaton 1, se ne sw 23-17n-2e	*	120
Cash 1, sw ne nw 24-17n-2e	*	4650
Marshall County—		
Hewitt Mineral Trust, Adams 1, nw nw ne ne 6-8s-6e	8	560
Okfuskee County—		
Texas, Cowan 1, swc 5-11n-10e	474	3719
Hall, Rentie 1, se se sw nw 36-12n-11e	12	1265
Okmulgee County—		
Price et al, Grayson 8-A, se se ne ne 21-14n-14e	3	1118
Atkins, Ashley 1-A, sw sw nw ne 32-14n-14e	3	1345
Francis, Adams 5-A, se se nw 33-15n-14e	13	1685
Osage County—		
Powers et al, No. 5, ne nwc ne 35-24n-8e	*	2525
Lewis Prod. Co., No. 8, nw se sw sw 27-24n-7e	1	2655
Pawnee County—		
Hoss, McClellan 1-A, se sw nw 14-20n-9e	¶1.0	2075
Brown, Molley 2-A, nec sw 21-22n-7e	*	2275
Pittsburgh County—		
Utilities Prod. Co., Carney 1, nwc ne 9-7n-18e (otd 1820 ft)	¶7.0	1977
Pontotoc County—		
Hall, Group & Moore Haskins 1, swc 26-5n-4e (otd 2500 ft)	85	2610
Senora, Summers 1, se ne sw 26-5n-4e	107	2605
Pine, Randall 4, nec nw 35-5n-4e	50	2600
Huddleston, Patterson 1, ne se sw 20-5n-8e	15	953
Pottawatomie County—		
Iglehart et al, Phillips "B" 1, nw sw ne 4-6n-5e (otd 4168 ft)	5	3057
Vise, Richardson 3, sw ne sw 16-7n-4e	50	3509
Magnolia, Billington 4, csl se nw sw 36-7n-4e (otd 4223 ft)	75	4271
Youts 6, sec sw 20-7n-5e	71	4140
Ptak, Taylor 1, sec sw 26-10n-4e	*	4612
Seminole County—		
Winona et al, Tiger 2, ne nw se 18-7n-8e	*	4285
Magnolia, Anderson 1, sw se ne 18-9n-6e (otd 4406 ft)	29	3100
Amerada Stout 1, nec sw 3-10n-5e (otd 4438 ft)	215	4658
Droppleman et al, Gahagen "B" 1, ne nw se 3-11n-8e	*	3629
Stephens County—		
Burkheart et al, Spears "C" 3, ne ne sw nw 15-1s-5w	5	485
Tillman County—		
Daley et al, Bryant 1, swc nw 33-2s-17w	*	4514
Texas County—		
Republic Natural, Cope 1, e½ ne nw 18-6n-16eCM	¶25.5	2830
Tulsa County—		
Striker, Allen 3, nec nw 4-17n-14e	*	1554

"I" indicates gas input well.

Pennsylvania

BRADFORD DISTRICT

Company, Well and Location	Init. Prod. Bbls.	Depth
Penn Valley Crude Oil Corp., Rounds	2	....
D. E. Quinlan Est., Fee	2	....
V. G. Smith, Fee	1	....
Bradford Tr. Co., 25 wells	25	....
Lane No. 1 et al Bing 371	2	....
Corurn & Gallagher, Corurn	2	....
Forest Oil Corp.	1	....
Forest Pet. Corp., 3 wells	3	....
Niagara Oil Corp., 5 wells	5	....
N. V. V. Franchot, Mgr., Franchot & Meridan	15	....
Carl J. Hamm, Fee	1	....
J. W. Coast, McCaffery & Coast	½	....
Water Intake Wells		
N. V. V. Franchot, Mgr., Campbell	...	....
George Van Vecklin & Son, Farr	...	....
Pine Run Oil Co., Bing 130-1-2-3-4-6, 2 wells	...	....
Forest Oil Corp.	...	....
Forest Pet. Corp., 3 wells	...	....
Niagara Oil Corp., 5 wells	...	....

SOUTHWEST PENNSYLVANIA

Company, Well and Location	Init. Prod. Bbls.	Depth
Armstrong County—		
R. C. Galbreth & Co., Dormire 2	¶.06	3070
Equitable Gas Co., Smeltzer 3	¶.07	3700
Waltenbaugh 1	*	3519
Penn Wayne Gas., Foster 1	*	3375
Clarion County—		
Owens-Illinois-Glass, Smathers 1	¶.10	1269
Cottage Hill Gas Co., Reitz 1	¶.06	3080
Greene County—		
A. V. Lewis et al, Smith & Pethtel 1	¶1.39	2950
Indiana County—		
T. W. Phillips G. & O. Co., R & P Coal Co. 2	*	3415
Washington County—		
Carnegie Nat. G. Co., McCollum 1	¶.23	1350
Westmoreland County—		
Peoples Nat. G. Co., Hulton 1	*	3534

East Texas

Joiner Area—

Company, Well and Location	Init. Prod. Bbls.	Depth
Texas Canadian Oil Corp., Cox 6 (10-ac)	240	3605
Kilgore Area—		
Lonnie Glasscock et al, Duncan 4-A (40-ac)	900	3670
Gulf, Douglas 1 (water input)	*	3762
Longview Area—		
B. F. Phillips, Jr., & Lange, Hawley 1	1200	3645
Anderson County (Long Lake)—		
W. B. Johnson et al, Murray 1 (47.81-ac)	65	5287
Long Lake Prod. Co., I&GN Ry Co. S (89-ac)	146	5382
Tucker 1 (44.7-ac)	¶112.0	5346
Angelina County (Wildcat)—		
Summerall-Harris et al, Condra 2	*	1583
Freestone County (Wildcat)—		
Arkansas Fuel Oil Co., Utley 1	*	4507
Houston County (Grapeland)—		
Grapeland Oil Co., J. M. Horn 3 (80-ac)	¶160.0	6044
Rusk County (Wildcat)—		
C. C. Thrasher & Whittington, Kangerga Bros. 1	*	3093

West Central Texas

Callahan County—

Company, Well and Location	Init. Prod. Bbls.	Depth
L. P. Blosser et al, Wylie 2	*	335
Trumbar Pet. Co., Finley 1	*	695
Coleman County—		
Ringle & McCracken, McCulloch 1	*	670
Jones County—		
N. H. Martin & Son, Reynolds 2	18	1489
Jones County (Wildcat)—		
Kadane-Griffith Oil Co., Spraberry 1	*	2782
Shackelford County—		
Fain-McGaha Oil Corp., Morris 3	60	1525
N. Grossenbacher et al, Hickman 8	27	704
F. W. Holder et al, Leschber 1	*	492
Marthy Oil Co., Dyer 1	*	1201
Merrick & Lamb, Matthews 1-D	¶0.75	1179
R. H. Roark et al, Hickman 11	18	695
Hickman 12	20	666
Ungren-Frazier, Jackson 2	29	931
Taylor County—		
Macktex Oil Co., High 2 (pb to 1845 ft)	52	2102

West Texas

Crane County (Sand Hills)—

Company, Well and Location	Init. Prod. Bbls.	Depth
Humble, Tubb 40	1349	4404
Dawson County (Wildcat)—		
Ray Albaugh et al, Robinson 2	*	5388
Ector County (Foster)—		
Great Western Prod., Inc., Johnson 3	892	4178
Shell, Witcher 4-C	1039	4100
Stanolind, Johnson 20	390	4225
Ector County (Goldsmith)—		
Phillips Pet.-Pure, Cowden 98	3030	4151
Cowden 99	1018	4163
Cowden 100	1320	4201
Ector County (North Cowden)—		
Barnsdall, Smith 15	1323	4200
Cities Service, Rhodes 5	3712	4200
Stanolind, Midland Farms 3-B	1332	4620
Gaines County (Seminole)—		
Magnolia & Atlantic, H. & J. 9-219	703	5260
H. & J. 10-265	293	5284
Ohio Oil, Gibbs 2	662	5282
Tippett 2	927	5297
Hockley County (Slaughter)—		
Magnolia, Mallet 1-B	751	5044
J. W. Murchison et al, Slaughter 7	417	5050
Howard County—		
Sinclair Prairie, Dodge 67	156	2820
Howard County (Wildcat)—		
M. L. Richards et al, Cole 1	*	3025
Mitchell County (Northwest)—		
C. W. Hanes et al, Grable 1	223	1732
N. V. Hilbun et al, Strain 1	86	1801
Pecos County (Payton)—		
A. E. Lynch et al, Cordz-Atlantic 1	40	2120
Pecos County (Tobarg)—		
A. J. Rife et al, Tippett-Conoco 35	10	412
Pecos County (Wildcat)—		
H. H. Sides et al, Blackstone-Slaughter 1-A	*	1705
Reagan County (Wildcat)—		
R. E. Ringo et al, Fee 1	*	3335
Scurry County (Sharon)—		
D. & R. Oil Co., Burney 3	330	2458
Stonewall County (Wildcat)—		
Shell, Smith 1	581	6065
Ward County (Wildcat)—		
Gulf, O Brien 141	*	3578
Winkler County (Emperor)—		
C. V. Lyman et al, Brown-Altman 2	¶23.0	2495
Winkler County (Kermit)—		
Bates-Reading Oil Corp., McCabe-Shell 3	288	3010
Yoakum County (Wasson)—		
Amon Carter & Continental, Willard 6-38	1408	5060
Don Danvers et al, J. Allen 2	210	5245
Magnolia, Mahoney 18	834	5175
Shell, Baumgart 13-E	1316	5170
Baumgart 14-E	1529	5175

North Texas

Archer County (Wildcat)—

Company, Well and Location	Init. Prod. Bbls.	Depth
Walter Gant et al, Vogtsberger 1 (pb to 4720 ft)	966	5335
Paul Steed-Ernest Wilson, Prideaux 1	*	4313
Archer County (Hull-Silk)—		
Continental, Wilson-McCrory 18	228	4389
Wilson-McCrory 19	848	4380

United States Well Completions—*Continued*

Company, Well and Location	Init. Prod. Bbls.	Depth
Helmerich & Payne, Moss 1	1296	4323
Thurmond & R. C. Lipscomb, Wilson 8	1296	3975
Archer County (K-M-A)—		
Thweatt & Gray, Ferguson 1	121	3950
Archer County—		
Cochran & Cain, Little 9-B	47	1320
Bert Ligon et al, White 7-C	10	477
White 8-C	9	480
White 5-E	38	969
Clay County—		
Bridwell Oil Co., Taylor 2	*	1577
E. N. Costley et al, Taylor 9-C	*	1141
Johnson & Kouri, Taylor-Elliott 1	*	1053
J. E. Kendall et al, Boddy 1	*	1314
Boddy 4	16	1312
Boddy 5	*	1331
J. A. Morgan et al, Brannon 2	*	165
Clay County (Shell-Henderson)—		
Shell Oil, Henderson 3 (pb to 3208)	1320	3579
Cooke County (Walnut Bend)—		
Magnolia, Ramsey 8	608	4813
Cooke County (Wildcat)—		
A. F. Dye et al, Aldridge 1	*	1582
Jack County (Wildcat)—		
Allard Smith et al, Power 1	20	396
Montague County (Nocona)—		
Stanolind, Hill 1 (pb to 4620 ft)	83	5388
Montague County (Bonita)—		
Sinclair Prairie, Gilbert 1 (pb to 5291 ft)	2722	5458
Montague County (Ringgold)—		
Gulf, Worsham-Spring 1	720	5701
Wichita County (K-M-A)—		
Bass & Dillard, Kempner 11	680	3804
Blanco Oil-Al Buchanan, Thom 6	800	3830
W. H. Hammon, Hanlon & Buchanan, Fassett-Tuttle 24	656	3958
Wichita County—		
C. E. Beavers et al, Martin 1	*	1452
Continental, Waggoner Est. 31	32	1386
Bolin & Marganstern et al, Waggoner Est. 27	*	806
C. T. Everts et al, Carnes 1	*	1482
W. H. Hammon et al, Womack 2	19	1330
Mitchell Oil Co., Wigley 1	6	590
Wilbarger County (Consolidated)—		
Waggoner Ref. Co., Waggoner Est. 4-GG	1168	4000
J. A. Wood et al, Womack 7	728	3995
Young County—		
W. F. Collins et al, Hawkins 1	5	500
Kleiner-H. Y. Oil Co. & West, Prideaux 2	5	625
Moran & Sons, Howard 1	*	1005

Texas Panhandle

Company, Well and Location	Init. Prod. Bbls.	Depth
Carson County—		
Cities Service, Burnett 37-A	¶29.8	2480
Magnolia, Fee (Tr 244) 81	10	3092
Texas Co., Moore 10	133	3112
Gray County—		
Magnolia, Morse 4-C	476	2698
S. & M. Oil Co., Worley 7	215	3286
Stanolind, Merten 14	212	3319
Hall County (Wildcat)—		
Humble, Weaver 1	*	4841
Hutchinson County—		
Cree & Hoover, Haile 7	320	3019
J. M. Huber Corp., Carver 2	¶13.0	3167
Bob Murphy et al, United Prod. Co. 1	126	3233
Phillips Pet., Katherine 1	¶2.4	3160
Texas Co., Pond 29	393	3020
Moore County—		
Shamrock O&G Corp., Thompson 3	¶33.5	2900
Wheeler County—		
North Fork Oil Co., Jackson 8	20	2215

South Texas

CORPUS CHRISTI DISTRICT

Company, Well and Location	Init. Prod. Bbls.	Depth
Aransas County—		
Puertoro Pet. Corp., Aransas Pass Community 1 (DD 21) (McCampbell)	500	7140
Jackson County—		
Seaport Oil Corp., Stepan 1 (West Ranch)	500	5767
Jim Wells County—		
Arkansas Fuel Oil Co., Sachteleban 1 (Wade City)	450	4935
Rodney Delange, McNeill 16 (Wade City)	650	4946
Rodney Delange and Earl Rowe, McNeill 4 (Wade City)	750	4930
Magnolia, Seeligson 13 (East Premont)	¶10.0 & 100	6346
Live Oak County—		
Joe M. White, Marsden et al 4 (White Creek)	121	1550
McMullen County—		
F. & W. Dr. Co. et al, Nueces Land & Livestock Co. 1 (WC), sur 142.	*	1710
Nueces County—		
Gulf Plains Corp., Butts 3 (Stratton)	¶20.0 & 200	6496
H. D. & H Inc., Vorwerk 1 (S. Clara Driscoll)	14	5361
Pan-American Prod. Corp., Driscoll Est. 4 (Clara Driscoll)	¶20.0	3856
Southern Minerals Corp., Bertram 2 (Stratton)	350	6935
Windsor Oil Co., Howze 6 (Minnie Bock)	75	3858
Refugio County—		
Coronado Oil Corp., Rooke 33 (La-Rosa)	200	6350
Laura "C" Oil Co., Mitchell D-9 (Refugio)	250	6477
Norsworthy Prod. Co., Fagan Est. 2, (WC) 8500 ft, nw Fagan fld.	*	5923
San Patricio County—		
Palm Meadow Oil Co., Coggin 2 (Midway)	*	5368
Southern Minerals Corp., Porterfield Est. 2 (McCampbell)	175	7130
Victoria County—		
Colton & Colton, Beck et al 1 (Telferner)	*	2707
Renwar Oil Corp. et al, Weaver 2 (WC) Blk 47	*	6033

LAREDO DISTRICT

Company, Well and Location	Init. Prod. Bbls.	Depth
Duval County—		
G. W. Basom, Tr, Adami 1 (WC) sur 341	*	....
Continental Oil, Driscoll Jr, Est. 53-A (Driscoll)	250	3354
Gilcrease Oil Co., Salazar 1 (WC) sur 3	¶25.0	2800
W. L. Goldston, Vaello 1 (WC) sur 240	*	4506
Magnolia, D. C. R. C. 5 (58) (Lundell)	30	1535
D.C.R.C. 2 (196) (Cedro Hill)	2	1443
D.C.R.C. 3 (196) (Cedro Hill)	*	1445
Weil 20 (495) (Hoffman)	*	2794
Jim Hogg County—		
Arkansas Fuel Oil Co., Allen 1 (Manila)	*	3006
Humble, Atwood 18 (Colorado)	125	3100
King-Colorado 16 (Colorado)	375	3005
Navarro Oil Co., Allen 2 (Manila)	250	2709
V. F. Neuhaus, Martinez (Trevino) D-1 (Colorado)	*	3050
Patel Drillers, Inc., and C. B. Peters, Jr., Pena 1 (wc) sur 574.	*	1667
McMullen County—		
W. F. Ashby, Enlow 1 (wc) blk 53, sur 27	*	1310
H. A. Baker, Sparkman 1 (wc) sec 21	*	1210
Ed Leach & Arthur Campbell, Kountze 1 (San Jose)	*	1200
F. R. Peterson, Phillips 1 (S. Callihan)	10	1012
Starr County—		
Clopton, Mitchell & Lindsay, Oberholzer 3 (Zim)	¶20.0	2676
W. R. Davis, Inc., Slick Est. 32-B (Rincon)	600	4356
King, Vessels & Baldridge, Inc., Rodriguez et al 3 (S Ricaby)	*	1810
T. E. Stephens, Guerra 3 (wc) sh 270	*	4?5
Sun Oil, Montalvo et al 4-A (Sun)	350	4914
Webb County—		
Glenda Oil Co., Saldivar 1-A (wc) blk 5, sur 657	*	1104
Humble, Yaeger et al 10 (Adami)	24	1012
Magnolia, Benavides 8 (West Cole)	*	2720
Zapata County—		
Hagan and Stewart Oil Co., Martinez 1 (wc) blk 23, sh 1	*	1504
T. J. Murray, Bruni Est. 1-A (wc) blk 39, Uribe tr B-8	*	948

SAN ANTONIO DISTRICT

Company, Well and Location	Init. Prod. Bbls.	Depth
Bastrop County—		
Marts & Beavens, Inc., Edmonson 1 (wc) Martha Barker sur	*	2610
Bexar County—		
S.K.C. Prod. Co., Barker 2	3	550
Guadalupe County—		
P. G. Rouse, Lenz 3 (Elm Creek)	5	900
Lenz 4 (Elm Creek)	5	860
Lenz 6 (Elm Creek)	*	1270
Medina County—		
Charles H. Wagener et al, Medina Irr. Farms 48-A (Chicon Lake)	2½	402
Williamson County—		
B. C. Lanier, Guentuel 1 (wc) Henry Cook sur	*	2605

Texas Gulf Coast

Company, Well and Location	Init. Prod. Bbls.	Depth
Anahuac—		
Humble, Trinity Rice Co. 1	476	7122
Bammel—		
Harrell, McLaughlin 1	..	6727
Clear Lake—		
Humble, West Fee C-47	*	5976
West Fee C-48	551	5927
West Fee C-49	502	5915
Cotton Lake—		
Humble, Flewellen 1	*	8580
Danbury—		
Humble, Bassett Blakely 3	*	8058
Esperson—		
General Crude, Davis 21	668	7656
Fairbanks—		
Amerada, Foley 25	145	6842
Fannett—		
Gulf, Bordages 6	832	8221
Humble—		
A. W. Crosby, Brazos Oil Co. 19	120	1590
Joe's Lake—		
Republic, Hurd 40	446	7710
Louise—		
Gulfstream, Jones 1	61	5171
Magnet—		
Humble, Cockburn 25	372	5541
Manvel—		
Texas, Way 5-B	454	5704
Old Ocean—		
Fidelity, Chenault 1	365	10,600
Pickett Ridge—		
Texas, Pierce 40	105	4792
South China—		
Titantic, Broussard-Hebert A-3	236	7938
Thompsons—		
Blaffer, Davis 7	205	5436
Humble, Davis 17	236	5467
Quintana, Wolters 7	195	5438
Tomball—		
Humble, Juergens 2	255	5580
West Columbia—		
Gulf, Mays 2	560	5693
Texas, Hogg 95	372	3201
Withers—		
Texas, Pierce B-57	95	5405
Chambers County—		
J. N. Rayzor, Robertson 1, Red Bluff prospect	*	8000
Grimes County—		
Laura C. Oil Co.'s Hetmaniak 1, 3 mi e Anderson	*	5750

West Virginia

Company, Well and Location	Init. Prod. Bbls.	Depth
Boone County—		
Pond Fork O. & G. Co., Fee 1	¶.45	2015
Cambridge, Price Hrs. 6	¶.43	3789
Owens-Libby-Owens, Cassingham Coal Co. 30	¶.28	2173
South Penn Nat. G. Co., Yawkey-Freeman 59	¶.23	2510
Clay County—		
Pitts. & W. Va. G. Co., Summers 7740	*	2042
Gilmer County—		
A. E. Ellis et al, Lockhart 2	¶.70	1839
Pitts. & W. Va. G. Co., Rinehart 7745	¶.05	1261
Hancock County—		
R. J. Braden Co., Brenneman 53	1	1068
Brenneman 55	*	986
Brenneman 57	2	860
Hamilton 15	*	988
Porters 1	*	986
Kanawha County—		
G. L. Cabot, Putnam Co. 1	¶2.48	1920
Lewis County—		
Pitts. & W. Va. G. Co., Bennett 7757	¶1.54	2597
McCall Dr. Co., Rinehart 1	¶.18	1905
Lincoln County—		
Roy & McComas, Adkins 1	¶.17	3539
Marion County—		
Hanley, Beatty & McIsaac, Thorn 1	¶.24	2865
Marshall County—		
Hope Nat. G. Co., Shaffer 7914	¶.45	3269
Pleasants County—		
G. A. Smith, Morris 1	8	1750
A. F. Marple & Co., White 18	1	1000
Putnam County—		
Laywell Gas, Clark 1	¶.21	2281
Teavee O. & G. Co., Gibson 1	¶.13	2189
Summit Gas, Burdett 1	¶.12	2048
Ritchie County—		
Bickle Oil, Hall & Tetrick 11	1	1715
Ruth A. McBurney, Perkins 3	3	1100
D. A. Cronin, H. H. Goff 1	¶1.50	1901
John R. Geho, Eddy Hrs. 1	¶.47	1982
Clem S. Morris, Cox 4	¶.25	2192
Frank Finley, Poole 1	¶.22	2567
N. Y. Petroleum Co., Moss 9	¶.15	1970
John L. Davis, Blair 1	*	2100
Roane County—		
W. B. Hughes, Hinzman 5	*	1610
Tyler County—		
R. J. Broadwater, McCullough Hrs. 1	*	935
Upshur County—		
Cumberland & Allegheny Co., Echard 298	¶.94	2176
Wayne County—		
Clifford Mills & Co., Allen Est. 2	¶.35	1677
James Webb et al, Stephens 1	¶.17	3157

"I" indicates input well.

Wyoming

Company, Well and Location	Init. Prod. Bbls.	Depth
Natrona County		
General Pet. Corp., G-P 51-21G cnw nw ne 21-35n-71w	225	4492
Niobrara County—		
Ohio Oil, Elizabeth Lamb 15 cnw se se 32-36n-65w	3418	5400
Elizabeth Lamb 16 cnw ne ne 5-36n-65w	3360	5628
Continental, Dielman 7-A nw ne nw 8-35n-65w	932	5386
Tom Bell 19 cnw ne se 33-36n-65w	324	5342
Niobrara County (Lance Creek)—		
A. B. Cobb, Novick 6, se ne nw 6-35n-65w	432	5365

WILDCAT REPORT
New Starts and Completions

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ARKANSAS

COMPLETION

Sevier County—R. A. McArthur's Bell Estate 1, se sw 29-9s-32w, abnd 785 ft.

CALIFORNIA

FIRST REPORTS

Kern County—Goodrum & Vincent's S. P. 6, sec 31-29-30, dr 266 ft, sand and clay, East Edison area. Spartan Dr. Co.'s Hiatt 1, sec 32-28-29, dr 675 ft in sand, Round Mountain area. Trico Oil & Gas Co.'s Coffee 1, sec 8-28-29, rig, Round Mountain area.

Los Angeles County—Nevada Dr. Co.'s Dominguez Est. 1, sec 31-3-13, lcn, West Dominguez area.

Ventura County—Westoil Corp.'s No. 1, sec 6-3-19, sp, Bardsdale area.

COMPLETIONS

Kern County—Freda G. Oil Co.'s Laymance 1, sec 20-30-22, td 1377 ft, pumped 80 bbls daily, 14-gr cutting 40 percent sand, McKittrick area.

San Luis Obispo County—California Fuel Oil Co.'s Elberta 3, sec 5-32-13, td 3330 ft, plugged 3177 ft, pumped 75 bbls daily, 20-gr, cut 50 percent.

COLORADO

FIRST REPORT

Garfield County—Joe T. Juhan et al's Government 1, nw ne 22-6s-9w, cable tools, Webstern Hill structure, objective Tertiary-Cretaceous contact, lcn.

COMPLETION

Larimer County—C. D. Cunningham's State-Warren 2, cwl se nw 6-11n-68w, abnd 290 ft without drilling through Tertiary overburden, Round Butte structure.

KANSAS

FIRST REPORT

Lyon County—Connell & McKnab's McKee 1, se ne ne 32-21-11e, mim.

COMPLETIONS

Barton County—Robertson et al's Miller 1, cwl sw ne 4-16-14w, 4 mi w Trapp pool, Neva 2200 ft, Topeka 2816 ft, Lansing 3112 ft, sso 3321 ft, Sooy 3344 ft, Arbuckle 3428 ft, hfw, abnd 3433 ft.

Ellsworth County—Cities Service Oil Co.'s Essick 1, nec 25-16-8w, 6 mi ne Lorraine pool, Lansing 2682 ft, Arbuckle 3445 ft, abnd 3512 ft.

Stafford County—Stanolind's Charles "A" 1, cn½ ne se 15-24-12w, 5½ mi w Zenith pool, Viola 3815 ft, td 4021 ft, pb 3886 ft, perf 144 shots 3815-50 ft, 3000 gals acid, 3000 bbls 40.5-gr.

MICHIGAN

FIRST REPORTS

Allegan County—Lang & Lewis, Inc.'s Sprau 1, ne ne ne 1-2n-13w, rig. N. R. Dodd's Hazen 1, sw nw sw 11-3n-12w, lcn.

Barry County—Homer Fulton's Federal Land Bank 1, ne nw se 6-1n-8w, rig.

Berrien County—Lakeland Oil Corp.'s Plym 1, sw sw ne 1-7s-17w, lcn.

Clare County—Taggart Bros. Inc.'s State 35, ne se 35-20n-6w, rig.

Isabella County—Stewart Oil Co.'s McClintic 1, sw sw 11-15n-3w, dr.

Kalamazoo County—M. L. Morton's Kline 1, sw se ne 29-4s-12w, rig.

Oceana County—C. W. Teater's Skidmore 1, se se nw 4-16n-16w, dr.

COMPLETIONS

Allegan County—R. D. Malcolm's Button 1, sw sw sw 14-3n-12w, Traverse lime 1665 ft, abnd 1670 ft. Douglass Dev. Co.'s Crane 1, se ne se 17-3n-16w, Traverse 1325 ft, abnd 1515 ft.

Clare County—Sun's McKenna 1, cs½ sw se 15-19n-3w, Monroe dolomite 3752 ft, so&g 3752½ ft, td 3755 ft, 1492 bbls 37.2-gr first 24 hrs, 1,630,000 ft gas, discovery.

Newaygo County—Taggart Bros., Inc.'s Thompson 2, nw nw sw 13-16n-11w, abnd 1450 ft. Charles Hoffman's Wilde 1, nw sw ne 17-11n-14w, Traverse lime 2030 ft, abnd 2080 ft.

Ottawa County—Welsh Oil Co.'s Pas 1, sw nw sw 34-5n-15w, Traverse 1566 ft, abnd 1585 ft. Stewart Oil Co.'s Vugteveen 1, se se nw 25-7n-15w, Traverse 1646 ft, so 1648 ft, abnd 1700 ft.

Roscommon County—Gulf's State 1, ce se nw 36-23n-1w, Antrim 1970 ft, abnd 1980 ft.

Van Buren County—Smith Pet. Co.'s Fellows 2, ne sw sw 22-1s-16w, Traverse 1059 ft, abnd 1064 ft.

MISSISSIPPI

FIRST REPORTS

Grenada County—D. H. Williams' Connecticut Life Ins. Co. 1, ne nw se 28-23n-5e, mat.

Yazoo County—Petroleum Ex. Co.'s Vandevere 1, sw se 25-13n-1w, rig for 6000-ft test.

COMPLETIONS

Madison County—Ralph A. Johnston's School Board 1, ne ne 16-11n-3e, chalk 3905 ft, elec log, abnd 5009 ft. Walter G. Ray Dr. Co.'s Haffey 1, sec 7-10n-5e, Midway 2961 ft, chalk 3746 ft, salt water, abnd 5020 ft. Stanolind O&G Co.'s Higgason 1, sw 10-11n-5e, elev 410 ft, Eutaw 4308 ft, elec log, abnd 5009 ft.

Neshoba County—J. P. Evans' Oliver 1, csw 18-9n-13e, elec log, abnd 4011 ft, Tuscaloosa.

Yazoo County—Kingwood Oil Co.'s Shipp 1, nw sw 4-10n-1e, elev 244 ft, Wilcox 1765 ft, chalk 4675 ft, Eutaw 5920 ft, abnd 6067 ft.

MISSOURI

COMPLETION

Caldwell County—Skelly Oil Co.'s Arnote 1, sw ne sw 25-55n-29w, 10 mi e Lathrop gas pool, td 410 ft, 4,500,000 ft gas.

MONTANA

FIRST REPORTS

Big Horn County—Massey Oil Co.'s Government 1, sw 11-2s-31e, Leggins Dome, lcn.

Gallatin County—Miller & Perkins' Government 1, s½ 17-13s-4e, West Yellowstone, lcn.

Blaine County—Cherry Ridge Syndicate's Harbolt 1, nw nw sw 1-35n-20e, Cherry Ridge st, sp 40 ft.

COMPLETION

Toole County—Wm. Hanlon et al's Merton Mortgage 1, csw se 6-37n-1w, abnd 2165 ft with 1800 ft water in hole from Ellis-Madison contact.

NEBRASKA

FIRST REPORTS

Nemaha County—Bow & Arrow Oil Co.'s Shrieffer 1, cs½ ne sw 20-4n-14e, mch.

Richardson County—M. J. Lewis et al's Wittwer 1, nwc ne 22-1n-14e, rur.

NEW MEXICO

FIRST REPORT

Eddy County—Neal Wills & Geo. T. Abell's Hale 1, sw se sw 12-20s-30e, lcn.

OKLAHOMA

FIRST REPORTS

Caddo County—Texas Co.'s Smith 1, cne nw 2-5n-12w, otd 2556 ft, coring below 2685 ft.

Kay County—Zephyr Dr. Co.'s Morrell 1, swc se 8-28n-4e, dr.

Okfuskee County—Graham et al's McLain 1, se sw sw 7-12n-7e, dr.

COMPLETIONS

Kay County—Alma Oil Co. et al's Livergood 1, nec nw 29-28n-2e, 4 mi w Newkirk, Mississippi lime 3680 ft, Chat 3925 ft, Arbuckle 4170 ft, abnd 4181 ft.

Kiowa County—G. Burke's Morganse 1, nwc sw 6-2n-16w, ne Snyder, Granite Wash 498 ft, Gabbro 485 ft, abnd 1035 ft.

Okfuskee County—Reese Dr. Co. et al's Berryman 1, nw sw sw 36-11n-8e, 2 mi e Cromwell pool, Cromwell 3462-76 ft, 456 bbls 38-gr, designated East Cromwell pool.

Oklahoma County—Continental Oil Co.'s Remund 1, sec ne 24-14n-4w, 1 mi n Edmond pool, first Wilcox 6647 ft, Green shale 6742 ft, abnd 6785 ft in second Wilcox.

Osage County—Norbla et al's Osage 1, nec nw 25-22n-9e, 1½ mi nw Wildhorse pool, Arbuckle 2423-49 ft, 4000 gals acid, 105 bbls 38-gr.

Pontotoc County—Garrett et al's Williams 1, nec 28-2n-4e, w Roff, McLish 183 ft, abnd 570 ft. Starr O. & G. Co. et al's State-Bayless 1, sec nw 32-5n-4e, Belle City 1575 ft, Viola 2360 ft, abnd 2535 ft in Viola.

Seminole County—W. B. Davis et al's Thlocco 1, nw sw nw 30-7n-7e, s Little River pool, Senora 2250 ft, td 2274 ft, pb 2263 ft, shot 15 qts 2252-63 ft, 90 bbls 39.1-gr.

EAST TEXAS

FIRST REPORTS

Cass County—Max Agress' Clark & Boice Lbr. Co. 1, Lot 2, Clark & Boice subd, Benjamin Hawkins Sur, mat.

Navarro County—W. E. McKinney, Butler & Calhoun's James 1, R. D. Newman sur, 1½ mi e Bazette, sp for Woodbine test.

Red River County—J. F. Morrissey et al's

Tyer 1, se 40-ac tr, Jas. Miro sur, 3½ mi ne Bogata, rig for Trinity test.

COMPLETIONS

Angelina County—Summerall-Harris et al's Condra 2, 15-ac tr, D. W. Maroney sur, ½ mi w Huntington, abnd 1583 ft.

Freestone County—Arkansas Fuel Oil Co.'s Utley 1, ne 232-ac tr, S. J. Claypool sur, 4 mi n Fairfield, Pecan chalk 2330-2435 ft, Austin chalk 3188-3608 ft, Woodbine series 3995 ft, abnd in Georgetown lime 4507 ft.

Rusk County—C. C. Thrasher-Whittington et al's Kangerga Bros. 1, sec 63-ac tr, Ignacio Castro sur, elev 390 ft, Pecan chalk 2102-2630 ft, Austin 3024 ft, abnd 3093 ft.

NORTH TEXAS

FIRST REPORTS

Clay County—Johnson & Kouri's Hunt 1, swc N-80 ac of E-160 ac sec 135, Byers subd, lcn.

Wichita County—Hanlon & Buchanan, Inc.'s Burnett 1, H&GN sec 34, A-435, rur for 4500-ft test.

Wilbarger County—A. E. Blair et al's Scott 1-A, nw sw H&TC sec 26, blk 13, dr 450 ft, Earl M. Stilley et al's Wheeler 1, sec ne H&TC sec 56, blk 4, lcn.

COMPLETIONS

Archer County—Walter Gant et al's Vogtsberger 1, ne sec 3, German Emigration Co. sur A-146, Bend 5118 ft, Ellenburger 5245-5335 ft, pb to 4720 ft, two nitro shots in Strawn 4688-4720 ft, flowed 80½ bbls oil 2 hrs ¾-in choke. Paul Steed & Ernest Wilson's Prideaux 1, nec sw TE&L Co. sec 1867, nominal oil saturation in sandy-lime 2685-95 ft, 3064-68 ft, and 3432-39 ft, abnd in basal Strawn 4313 ft.

Cooke County—A. F. Dye et al's Aldridge 1, nec tract, BBB&B sur A-168, abnd 1582 ft.

Jack County—Allard Smith et al's Power 1, nec M. Hunt sur A-298, lime pay 384-88 ft, sand 388-96 ft, pumped 20 bbls.

TEXAS PANHANDLE

COMPLETION

Hall County—Humble's Allie Weaver 1, ne se ne S.P. Ry. sec 51, Block 1, elev 1960 ft, San Angelo line 420 ft, lower Wichita-Albany 2410 ft, Ellenburger 4675 ft, abnd in granite 4838-41 ft.

WEST CENTRAL TEXAS

FIRST REPORTS

Brown County—J. E. Whitesides et al's Shelton 1, M. Curbier sur 141, sp.

Coleman County—L. J. Derrick et al's Vance 1, E. T. Ry. sec 101, ne offset to dry hole, lcn.

San Saba County—Three Widows Oil Co.'s Ballard 1, nw sw 160 ac of H. Behrenroth sur 506, mim.

COMPLETION

Jones County—Kadane-Griffith Oil Co.'s Spraberry 1, nw sw sw S. P. Ry. sec 11, blk 2, elev 1768 ft, abnd hfw 2765-82 ft.

WEST TEXAS

FIRST REPORTS

Crockett County—Moore Exp. Co.-Olson Oil Co.'s Couch 1, se HE&WT sec 33, blk GG, but in sec 52, blk GG, mim for 2000-ft test.

Fisher County—F. A. Stephenson et al's Maberry 1, cse sw HT&B sec 56, blk 1, lcn.

Irion County—U. Hampton et al's Nutt 1, sw¼ n½ nw¼ subd 6, Gonzales CSL sur, spudder.

COMPLETIONS

Dawson County—Ray Albaugh et al's Robinson-Atlantic 2, cnw nw E. L. Ry. sec 54, blk M, elev 3118 ft, anhydrite 2210 ft, Yates grains 3090 ft, brown lime 4120 ft, solid lime 4640 ft, abnd 5388 ft.

Howard County—M. L. Richards et al's Cole 1, ne se nw H&TC sec 12, blk 26, elev 2370 ft, Yates sand 1125 ft, grains 1152 ft, Queen sand 1725 ft, San Andreas 2240 ft, abnd hfw 2968-3025 ft.

Pecos County—H. H. Sides et al's Blackstone-Slaughter-Lackey 1-a, se sw sw T&St.L. sec 29, blk 129, elev 3540 ft, abnd 1705 ft.

Reagan County—R. E. Ringo's Fee 1, c nw D&SF Ry. sec 22, blk K, elev 2582 ft, anhydrite 1080 ft, lime 3106 ft, abnd hfw 3330-35 ft.

Stonewall County—Shell Oil Co.'s Smith 1, nwc sw H&TC sec 143, blk 1, elev 1767 ft, Wichita-Albany 1328 ft, Noodle Creek lime 2818 ft, Canyon 3625 ft, Palo Pinto 4700 ft, Strawn 5151 ft, Mississippi lime 6005 ft, pay 6012-65 ft, used 10,000 gals acid flowed 581 bbls 39-gr initial.

Ward County—Gulf's O'Brien 141, se ne nw G&MMB&A sec 39, blk F, elev 2665 ft, abnd 3578 ft.

SOUTH TEXAS

FIRST REPORTS

Bee County—W. Earl Rowe and W. C. McBride, Meyer 1, blk 20, W. E. Rowe O. & G. lse subd, H. Williams sur, ab 403, 2 mi ne Tynan, lcn.

Caldwell County—A. F. Barnhill, Tr.'s, Robuch 1, 600-ac tr, A. Swift sur, Buchanan area, dr 1550 ft.

Duval County—Humble's Muil 1, 561.23-ac tr, Diego Hinojosa gr, 5½ mi ne Realitos, lcn.

Hidalgo County—Humble's American Life Ins. Co. 1, lot 1, blk 13, 2401.42-ac tr, Missouri-Texas Ld & Irr. Co. subd, 3 mi n Hargill townsite, lcn.

Jim Wells County—F. J. Hynes et al's Cocke & Lawrence 1, 300-ac tr, Walt F. Rice sur A 400, 5 mi nw Orange Grove, 2 mi n Wade City fld, sur csg, woc, Smith & Story's Buidue 2, ctr lots 11 and 12, sec 76, Haldeman subd, SK and K sur 231, on n edge shallow prod, 16-inch csg 250 ft, 10¾-inch csg 1620 ft, dr 2100 ft.

Kenedy County—Hundred and One Oil Co.'s Kenedy 1, 40-ac tr, Jose Antonio Deal de Leon gr, 8 mi sw Mefflin, lcn. Skelly's State Tr 22824 1, 95-ac tr, State Tr 388, extending into both Kleberg and Kenedy counties, Laguna de los Olmos, 7 mi se Riviera, lcn.

Live Oak County—Edwin M. Jones' West B-8, G. L. Hass sur 59, 6 mi sw George West, Pettus sd test, lcn.

Nueces County—Southern Minerals Corp.'s Bluntzer 1, 1068.2-ac tr, blk 3, Bluntzer Lands subd, Casa Blanca gr, 5 mi n N. Agua Dulce fld, 4199 ft n W. F. London 400-ac tr, lcn.

San Patricio County—O. W. Killam's Abney 1, 226.2-ac tr, sec "O" Paul subd, Coleman-Fulton Pasture Co. lands, Humble farmout, ¾-mi w Gregory, dr 3125 ft.

Victoria County—Renwar Oil Corp. et al's Weaver 2, c blk 47, Landor, Traylor and Pickering subd, Diego Garcia gr, ab 39, 5 mi w Dacosta, 10¾-inch csg 1320 ft, abnd 6033 ft.

Webb County—Glenda Oil Co.'s Saldivar 2-A, 41.64-ac lse, blk 5, E. Garner subd, sur 656, 25 mi e Laredo, dr 350 ft. Pitkin and Goldston Oil Co.'s Bruni 1, blk 39, 60-ac tr, Brown O. & G. subd, sec 39, Albercas gr, ru.

Zapata County—Dulup Oil Co.'s Garza 2, blk 53, Douglas subd, Zorro Ranch, Comitas gr, lcn. Hagan & Stewart's Martinez 2, c lot 78, McCullough subd, El Grullo gr, 3 mi n Charco Redondo fld, lcn.

COMPLETIONS

Bastrop County—Marts & Beaven, Inc.'s Edmonson 1, 40-ac tr, Martha Barker sur, 3 mi ne Cedar Creek, abnd 2610 ft.

Duval County—G. W. Basom, Tr.'s Adami 1, J. H. Gibson sur 341, 448-ac tr, nw part of county, 2 mi se Adami fld, temp abnd. Gilcrease Oil Co.'s Salazar sur 3, 120-ac tr, 1 mi sw Hoffman fld, g sd 2602-13 ft, o sd 2623-24 ft, td 2800 ft, comp as gasser. W. L. Goldston's Vaello 1, U. Lott sur 240, 3 mi nw Sweden, abnd 4506 ft.

Jim Hogg County—Patel Drillers, Inc., and C. B. Peters, Jr.'s Pena 1, blk 29, sur 574, sh 2, El Peyote gr, 16 mi sw Hebbronville, abnd 1667 ft.

McMullen County—W. F. Ashby's Enlow 1, blk 53, subd Martin Ranch, D. M. Stopp sur 27, ab 424, 1 mi s Tilden, abnd 1310 ft. H. A. Baker's Sparkman 1, sec 21, Two Rivers Ranch subd, 93-ac lse out of 266.85-ac tr, George Pittuck sur, ab 10, 7 mi sw Calliham, abd 1210 ft. F. & W. Dr. Co.'s Nueces Land & Livestock Co. 1, Camilo Mendez sur 142, 4½ mi ne Munson pool, abnd 1710 ft.

Refugio County—Norsworthy Prod. Co.'s Fagan 2, 1958.14-ac tr, Nicholas Fagan lg, ab 25, 2850 ft s Fagan 1, 8500 ft nw Fagan fld, abnd 5923 ft.

Starr County—T. E. Stephens' Guerra 3, 41.27-ac of sh 270, por 69, Juris of Mier, ½ mi n No. 2, 13 mi nw Roma, Margo area, abnd 475 ft.

Victoria County—Renwar Oil Corp. et al's Weaver 2, c blk 47, Landor Traylor and Pickering subd, Diego Garcia gr, ab 39, 5 mi w Dacosta, abnd 6033 ft.

Webb County—Glenda Oil Co.'s Saldivar 1-A, blk 5, Garner subd 1, sur 657, J. V. Borrego gr, abnd 1104 ft.

Williamson County—B. C. Lanier's Guentuel 1, Henry Cook sur, 2000-ac blk, 3 mi se Chapman fld, Austin chalk 2565 ft, abnd 2605 ft.

Zapata County—Hagan and Stewart Oil Co.'s Martinez 1, blk 23, sh 1, El Grullo gr, McCullough subd, 25 mi ne Zapata townsite, abnd 1504 ft. T. J. Murray's Bruni 1-A, blk 39, O. W. Killam subd, Blas Uribe Tr B-8, J. V. Borrego gr, 13 mi s Aguilares, abnd 948 ft.

TEXAS GULF COAST

FIRST REPORTS

Chambers County—Humble's State 2-A-288, midway Red Fish Reef, Galveston Bay and Seabrook, 3 mi sw Humble's 1-A-247, wc now testing, lcn 9500-ft test.

Washington County—O. S. Knisely's Calhoun 1, Perry & Austin lg, 4 mi nw Clay Creek, 5 mi e Somerville, dr 1801 ft in shale.

COMPLETIONS

Grimes County—Laura C. Oil Co.'s Hetmaniak 1, 3 mi e Anderson, Wilcox 5313 ft, Cockfield 2609 ft, elec log, abnd 5750 ft.

UTAH

FIRST REPORT

Box Elder County—Northern Oil Co.'s Government 1, cne sw 17-13n-4w, White Valley st, dr 440 ft.

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Petroleum Engineer and Geologist
Houston Oil Company

This book combines the rich, human interest features of the oil and gas industry in Texas since its beginning with the cold, statistical facts revealed in the more than 150 pages of tabular matter included.

In view of the ever-increasing importance of the oil and gas industry of the State of Texas and the fact that the number of pioneers of this industry is decreasing from year to year, it has been deemed advisable to present a history of the industry in this State, based on authentic information and prepared for ready reference.

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NOTES FOR THE Equipment Buyer and User

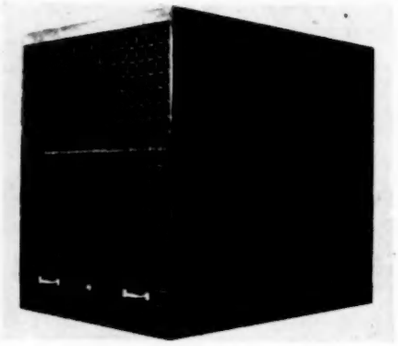
Tube File

F. W. ROBSON AND J. A. GERSON

A tube file for tracings, films, prints, drawings and maps has been introduced by F. W. Robson and J. A. Gerson, 2939 South Cincinnati, Tulsa.

Designated Cabtoob, the cabinet is made of 22-gauge steel with a roll-a-way door equipped with a Yale lock. It provides space for 255 2-inch rolls, and is available in models 24-, 36-, 42- and 54-inch deep. Width is 32 inches and height 42 inches. An index is provided to facilitate location of material.

A utility model contains 255 2x54-inch filing compartments, with roll-a-way doors on each end, while a vertical model with 40 2x36-inch tubes will accommodate rolls of any length.



Cabtoob Tube-Filing Case

Welding Regulators

LINDE AIR PRODUCTS COMPANY

Addition of three new single-stage general service regulators to its line of Oxweld welding and cutting apparatus has been announced by Linde Air Products Company, 30 East 42nd Street, New York. Oxweld R-80 regulator is for delivery of oxygen at working pressures up to 200 pounds per square inch, Oxweld R-81 is its companion acetylene regulator, and Oxweld R-82 is a fuel gas regulator.

Types R-80 and R-81 are of the stem type, with the valve closing with the incoming pressure to assure positive seating action. Type R-82, also of the stem type, may be used with various gases, including propane and butane.

Oxweld R-80 and R-81 Regulators

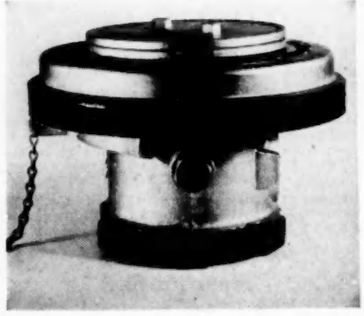
The regulators are designed for all welding, cutting and deseaming operations where simplicity of construction and large capacity are demanded.

Thief Valve

BLACK, SIVALLS & BRYSON

A series of gas-tight thief valves featuring a gasket joint designed to prevent leakage of gas even up close to the blowing pressure has been announced by Black, Sivalls & Bryson, Oklahoma City.

The valves for relieving at intermediate pressures are available in 2-, 4-, 10- and 16-ounce rated capacities.

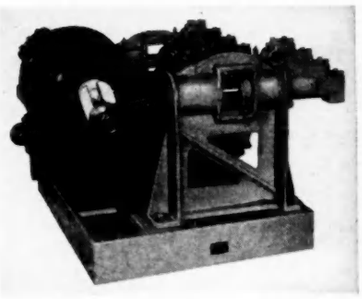


Black, Sivalls & Bryson's Thief Valve

Proportioning Pump

MILTON ROY PUMPS

A new high-pressure duplex proportioning pump with a rated maximum capacity of 1200 gallons an hour has been announced by Milton Roy Pumps, 3160 Kensington Avenue, Philadelphia. It is similar in design to proportioning pumps previously announced by the manufacturer.



Milton Roy Proportioning Pump

Pistons and all other metal parts coming into contact with the solution are of special corrosion-resistant stainless steel.

Truck Chassis

FEDERAL MOTOR TRUCK COMPANY

Federal Motor Truck Company, Detroit, has announced addition to its line

Avoid Casing or Tubing Leaks this Modern Way

Many operators are guarding against casing and tubing thread leaks by applying RECTORSEAL to the field end of each joint, as run . . . after specifying to their pipe mill that all collars be put on with RECTORSEAL instead of a petroleum soluble. In this way they profit fully by the exclusive advantages offered by this remarkable leak preventer discovery. They have a permanent leak-proof seal impervious to oils, gases, salt water or dilute acids . . . a plastic, elastic seal which permits easy breakout of joints. The saving in production will far more than pay for the RECTORSEAL, one gallon of which treats the field end of 7,000' of 2½" tubing.

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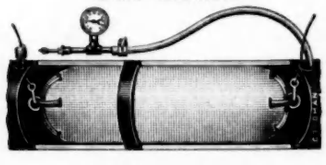

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NOTES FOR THE Equipment Buyer and User

of a 1½- to 2½-ton chassis with a gross rating of 13,000 pounds.

Designated Model 16, it is powered with a Hercules heavy-duty 6-cylinder L-head engine with a bore and stroke of 3-13/32 x 4¼ inches, developing a maximum of 75 horsepower. Maximum torque is 164 foot-pounds at 1200 r.p.m.

The frame is 8½ inches deep, and axles are Timken, the rear being a full-floating bevel-gear type. Front springs are 38 inches long by 2½ inches wide, while rear springs are 50 inches long by 2½ inches wide. All spring and chassis pins float in compressed rubber bushings. Six wheelbase lengths are available, 135-, 146-, 155-, 167-, 180- and 194-inch.

Dinges, European Representative For Continental-Emsco, Here

R. M. Dinges

R. M. Dinges, European technical representative for Continental - Emsco Company for the past 10 years, recently arrived in the United States from England. He is making a tour of Illinois, Louisiana, Oklahoma and Texas fields to visit friends.

Allis-Chalmers Names F. J. Geiger To Electrical Department Post

Max W. Babb, president of Allis-Chalmers Manufacturing Company, last week announced appointment of F. J. Geiger as assistant manager of the electrical department, in which capacity he will be in complete charge of sales and engineering at the company's plant at Norwood, Ohio. He succeeds C. J. Rattermann, retired.

Geiger entered the employ of the company in 1913 in its New York district office. During the World War, he joined the army and served with the air service in France.

Frank R. Freyler, now in the company's Philadelphia office, will be transferred to the Norwood plant to take over Geiger's former duties as assistant manager of sales.

W. P. Laseter Heads New Export Division for Roebling's Sons

John A. Roebling's Sons Company, Trenton, New Jersey, last week announced establishment of an export division under the direction of William P. Laseter as manager. Headquarters are at 19 Rector Street.

W. P. Laseter

A native of Georgia and graduate of Georgia Military College, Laseter has spent 21 years in the export business, much of the time in Mexico and Cuba. He was until recently assistant manager of the export division of Oil Well Supply Company and president of Cia. Consolidada Oilwell, S. A., the company's Mexican subsidiary.

Brown Oil Tools Takes Over Christmas Tree Manufacture

Brown Oil Tools, Inc., Houston, on September 1 will take over manufacture and assembly of Christmas trees of its design, and formerly manufactured and assembled by Hughes Tool Company.

Complete well-completion service will be provided by Brown Oil Tools, Inc., including repairing and reworking of Christmas trees now in service. The company is now completing a plant-expansion program that includes installation of new machinery to handle this work.

Daniel Orifice Fitting Company Establishes Houston Office

Daniel Orifice Fitting Company, Los Angeles, has opened an office and shop for the Gulf Coast district at 108 Portwood Street, Houston. More than 150 guests attended an open-house celebration at the new building August 9.

The company, headed by Paul P. Daniel, manufactures a line of oil and gas specialties featuring its orifice fittings. Distribution in the Gulf Coast area continues through the Houston Oil Field Material Company.

The personnel at the Houston headquarters includes G. W. Daniel and Jack C. Horton, sales representatives; James R. Allen, engineer; Miss Ruth H. Woodson, secretary, and George E. Poindexter, shop foreman.

Daniel Orifice Fitting Company's New Houston Headquarters

Portable Voltmeters, Ammeters

The Bristol Company, Waterbury, Connecticut, has issued Bulletin 555 on portable recording voltmeters and ammeters. It describes features incorporated to make the recorders moisture-proof and rugged enough to withstand transportation and rough use.

Circuit Breakers

Heinemann Circuit Breaker Company, Trenton, New Jersey, has issued Catalog 40 giving 36 pages descriptive of its line of instantaneous-trip type and time-delay type circuit breakers. The devices are described as supplying continual service with no maintenance, as reclosing immediately when current returns to normal after an overload or short circuit, as using negligible wattage since nothing heats.

YOU *Know* A KIBELE SWAB PULLS THE LOAD

Under much or little Fluid, Controlled Pressure

1. Prevents By-Passing;
2. Compensates for Wear.

See Composite Catalog

KIBELE MANUFACTURING CO.

DALLAS, TEXAS

Standco NO-SMOKE

STANDCO BRAKE LINING

for the easiest brake known. It "feeds off" evenly. Standco never scores brake rims. See page 2100, Composite Catalog.

Standco Brake Lining Co.

HOUSTON

NOTES FOR THE Equipment Buyer and User

Monsanto Chemical Company to Build New Plant Near Detroit

Monsanto Chemical Company, St. Louis, Missouri, has begun work on plans for a manufacturing plant in the Detroit area for the production of peacetime chemicals, Edgar M. Queeny, president, announced last week. A tract of 138 acres has been purchased 15 miles southwest of Detroit and a mile southwest of the business district of Trenton, fronting on the Detroit River.

The plant will be the company's eighteenth, and the fourth in its phosphate division. Completion is scheduled for mid-1941.

J. B. Durkee Joins L. K. Pump Valve as Sales Representative

J. B. Durkee has been named sales representative in the Gulf Coast and Mid-Continent territories for L. K. Pump Valve Company, Houston. After working in Texas oil fields as roughneck and assistant superintendent, Durkee served 8 years as sales representative for A. M. Byers Company, moving to Houston in 1934 to become district manager for the company. He recently was sales representative for McEvoy Company.

J. B. DURKEE

Distribution Transformers

Allis-Chalmers Manufacturing Company, Milwaukee, has issued Bulletin B-6096 describing a new line of distribution transformers in ratings of 1½- to 25-kva and standard voltage classes from 2400 to 7620 volts. Its 16 pages describe principal design features and illustrate manufacture of the transformers.

L. A. BABB

Vice president and director of sales for Bridgeport Machine Company, has transferred from the Wichita to the Tulsa office of the company.

Minimum Wear on Line and Sheave

with . . .

McKissick *Safety* Floor Blocks

This is made possible through use of the Universal Adapter—so designed that plenty of side sway is permitted, without any undue wear on the line or sheave. Ball-bearing swivel assembly permits block to freely swivel under heaviest loads.

Our Safety Floor Blocks are available with base plate or latch-type becket. The guards are so constructed that they do not need to be detached for threading the line, which assures permanent safety during the life of the block.

Available in four sizes with single bearing, and two additional sizes with double bearings—sheave diameters from 12" to 24".

At Supply Stores

McKISSICK PRODUCTS CORPORATION
TULSA, OKLAHOMA

Squeaks from the Bull Wheel

Paper Losses

Will you let me have a dime, mister?

I haven't got any change on me, but I'll give it to you when I come back this way.

Well, all right; but you'd be surprised at the money I lose giving credit this way.

And Follow Through

The sweet young thing asked him if he could tell her how to play golf.

"Sure, it's easy," he told her, "all you do is hit the pill then walk."

"How interesting," she replied, "just like some of the automobile rides I have been on."

Under the Collar

"Little boy, do your dogs have licenses on them?"

"Yes Sir! They're just covered with them."

The Saving Side

"Does your wife economize?"

"Oh, yes; we have to do without practically everything I need."

A Pushover

Policeman: "How did you knock him down?"

Motorist: "I didn't! I pulled up to let him go across—and he fainted."

Brother Act

"Lady, if you'll give us sixpence me little brother'll imitate a hen."

"You mean he can cackle like a hen?" asked the lady.

"No," replied the boy in disgust. "He wouldn't do a cheap imitation like that. He'll eat a worm."

Also Full

"Johnny, what is a cannibal?"

"I don't know."

"Well, if you ate your father and mother what would you be?"

"I'd be an orphan."

Perhaps at the Beach

"Oh, doctor, will the scar show?"

"That, young lady, is entirely up to you."

Barking Dogs

A latecomer to the circus was fussily pushing his way to a seat.

"Did I tread on you, old man?" he remarked.

"It must have been you. All the elephants are in the ring."

Free Wheeling Brain Power

"Next to a beautiful girl, what do you think is the most interesting thing in the world."

"When I'm next to a beautiful girl, I'm not interested in thinking."

But Not to Operate

First Interne: "Why do you call that new nurse 'Appendix'?"

Second Interne: "Because all the doctors want to take her out."

Lost

A hotel guest was awakened in the middle of the night by a commotion at his door. He opened it and found a drunk.

"Very sorry," said the drunk, "thought this was my room."

The sleeper retired only to be awakened again five minutes later by the same man.

"I most humbly apologize," hiccupped the drunk, "I'm still tryin' to get to my room."

Again the sleeper went to bed, again he was disturbed and again it was the same souse. But this time the inebriated one's good humor and politeness vanished.

"Look here," he said, "have you got every confounded room in the house?"

No Expense

"Why, Bridget, the electric heater in the hall has been on all day long!"

"Don't worry about that, ma'am. I borrowed it from the people next door."

Drafted

The negro preacher's term had expired and he was anxious to stay on.

"Brethen," he said, "the time has come fo' youall to elect a pastah fo' anothah yeah. All dose favorin' me will please say 'Aye.'"

He waited a moment and then: "Silence gives consent, I'se yo' pastah fo' anothah yeah."

Daylight Raving Time

Does your watch keep good time?

Why, you notice the days are getting longer, don't you?

Yes.

Well, that's just the sun trying to get back to schedule with my watch.

Where There's No Smoke

The landlady entered a boarder's room on the morning of his departure. "I see, sir," she said, "there's a hole burnt in that easy chair. Of course, I shall expect you to pay for it."

"Not likely! You can't blame me for it. I don't smoke!"

"Of all the nerve! I've had this house for over two years, and you're the first visitor who has refused to pay for that hole!"

Also in the West

"My, what a beautiful sunset this is!"

"Yeah, not bad for a small place like this, is it?"

Cash and Carry

"Henry, I thought you told me that your bank loaned money on notes?"

"So it does, dear. Why?"

"Well, it doesn't. I sent the maid down there with a note telling them I wanted to borrow $100 and they wouldn't give it to her."

a name to Remember!

MILLER Sand Pump

Day after day — for years, oil men throughout the world clean-out sand and sediment, increase production quickly and inexpensively with MILLER Sand Pumps.

The MILLER is made in diameters of 2½, 3, 3½, 4, 4¼, 5, 5½, 7 and 9 inches and lengths of 20, 25 and 30 feet. 5/32-inch wall thickness in REGULAR Type, ¼-inch wall tubes HEAVY DUTY Sand Pumps.

INTERCHANGEABLE BOTTOMS
To Meet Every Condition

● BAILER BOTTOM
With the Bailer Bottom installed the MILLER is quickly changed to a Bailer giving you a combination of either Bailer or a Sand Pump in one tool.

● SAND BOTTOM
Used when tools are run and when well is shot to quickly remove loose material.

● STAR BOTTOM
Used for cutting the sand loose.

● CHISEL BOTTOM
(In Pump)
With this bottom tightly packed sand can be easily broken in small pieces so it can be picked up in the pump.

Write for Descriptive Folder and Price List

See Pages 1672-73 COMPOSITE CATALOG

MILLER Sand Pump Co.

PATENTED NO. 1370340 NO. 1823905 NO. 1787300 NO. 1862628 NO. 1864628 NO. 2052647

General Offices and Factory:

OKLAHOMA CITY, OKLAHOMA
1524 S. E. 29th P.O. Box 4516 Tel. 7-6884

Branches:
SAPULPA, OKLAHOMA—Tel: 341
KILGORE, TEXAS—Tel: 545

FOR SALE BY SUPPLY STORES EVERYWHERE

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